TO: ALL HOLDERS OF OUTBOARD LEADING EDGE SLAT DRIVE PDU GEARBOX ASSEMBLY
COMPONENT MAINTENANCE MANUAL 27-81-73

REVISION NO. 2 DATED JUL 01/01

HIGHLIGHTS

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
702-703,706	Changed formula to calculate shim thickness.
703	Deleted reference to engraved dimension on follow-up worm gear.

BOEING

COMPONENT
MAINTENANCE MANUAL

OUTBOARD LEADING EDGE SLAT DRIVE POWER DRIVE UNIT GEARBOX ASSEMBLY

PART NUMBERS 256T5510-1,-2

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

K07068

REVISION RECORD

- Retain this record in front of manual. On receipt of revision, insert revised pages in the manual, and enter revision number, date inserted and initial.

REVISION NUMBER	REVISION DATE	DATE FILED	BY	REVISION NUMBER	REVISION DATE	DATE FILED	BY

KD7069

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR B13235	JUL 01/00

PAGE	DATE	CODE
27-81-73		
TITLE PAGE		
1	JUL 01/00	01.1
2	BLANK	
REVISION RECORD		
1	NOV 01/99	01
2	BLANK	
TR & SB RECORD		
1	JUL 01/00	01.1
2	BLANK	
LIST OF EFFECTIVE PAGES		
*1	JUL 01/01	01
THRU LAST PAGE		
CONTENTS		
1	NOV 01/99	01
2	BLANK	
INTRODUCTION		
1	NOV 01/99	01
2	BLANK	
DESCRIPTION & OPERATION		
1	NOV 01/99	01
2	NOV 01/99	01
TESTING & FAULT ISOLATION		
101	NOV 01/99	01
102	NOV 01/99	01
103	NOV 01/99	01
104	BLANK	
DISASSEMBLY		
301	NOV 01/99	01
302	NOV 01/99	01
303	NOV 01/99	01
304	BLANK	
CLEANING		
401	NOV 01/99	01
402	BLANK	
CHECK		
501	NOV 01/99	01
502	NOV 01/99	01
REPAIR-GENERAL		
601	NOV 01/99	01
602	NOV 01/99	01
REPAIR 1-1		
601	JUL 01/00	01.1
602	JUL 01/00	01.1
603	NOV 01/99	01
604	NOV 01/99	01
605	NOV 01/99	01
606	NOV 01/99	01
REPAIR 2-1		
601	JUL 01/00	01.1
602	JUL 01/00	01.1
603	JUL 01/00	01.1
604	JUL 01/00	01.1
REPAIR 3-1		
601	JUL 01/00	01.1
602	JUL 01/00	01.1
REPAIR 4-1		
601	JUL 01/00	01.1
602	JUL 01/00	01.1
603	JUL 01/00	01.1
604	JUL 01/00	01.1
605	JUL 01/00	01.1
606	JUL 01/00	01.1
607	JUL 01/00	01.1
608	BLANK	

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PAGE	DATE	CODE
REPAIR 5-1		
601	JUL 01/00	01.1
602	JUL 01/00	01.1
603	JUL 01/00	01.1
604	JUL 01/00	01.1
ASSEMBLY		
701	JUL 01/00	01.1
*702	JUL 01/01	01.1
*703	JUL 01/01	01.1
704	NOV 01/99	01
705	NOV 01/99	01
*706	JUL 01/01	01.1
707	NOV 01/99	01
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FITS AND CLEARANCES		
801	NOV 01/99	01
802	NOV 01/99	01
803	NOV 01/99	01
804	NOV 01/99	01
805	NOV 01/99	01
806	BLANK	
SPECIAL TOOLS		
901	NOV 01/99	01
902	BLANK	
ILLUSTRATED PARTS LIST		
1001	NOV 01/99	01
1002	JUL 01/00	01.1
1003	JUL 01/00	01.1
1004	JUL 01/00	01.1
1005	JUL 01/00	01.1
1006	JUL 01/00	01.1
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1011	JUL 01/00	01.1
1012	JUL 01/00	01.1
1013	JUL 01/00	01.1
1014	JUL 01/00	01.1

PAGE	DATE	CODE
ILLUSTRATED PARTS LIST		CONT.
1015	JUL 01/00	01.1
1016	JUL 01/00	01.1
1017	JUL 01/00	01.1
1018	JUL 01/00	01.1
1019	JUL 01/00	01.1
1020	JUL 01/00	01.1
1021	JUL 01/00	01.1
1022	JUL 01/00	01.1

* = REVISED, ADDED OR DELETED

TABLE OF CONTENTS

INTRODUCTION

The instructions in this manual provide the information necessary to perform maintenance functions ranging from simple checks and replacement to complete shop-type repair.

This manual is divided into separate sections:

1. Title Page
2. Record of Revisions
3. Temporary Revision & Service Bulletin Record
4. List of Effective Pages
5. Table of Contents
6. Introduction
7. Procedures & IPL Sections

Refer to the Table of Contents for the page location of applicable sections.

The beginning of the REPAIR section includes a list of the separate repairs, a list of applicable standard Boeing practices, and an explanation of the True Position Dimensioning symbols used.

An explanation of the use of the Illustrated Parts List is provided in the Introduction to that section.

All weights and measurements used in the manual are in English units, unless otherwise stated. When metric equivalents are given they will be in parentheses following the English units.

Design changes, optional parts, configuration differences and Service Bulletin modifications create alternate part numbers. These are identified in the Illustrated Parts List (IPL) by adding an alphabetical character to the basic item number. The resulting item number is called an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless otherwise indicated.

Verification:

OUTBOARD LEADING EDGE SLAT DRIVE PDU GEARBOX ASSEMBLY

DESCRIPTION AND OPERATION

1. Description

   A. The power drive unit gearbox is used in conjunction with a hydraulic motor, electric motor, and feedback follow-up mechanism to provide torque for actuating the airplane leading edge slat system.

2. Operation

   A. Main input power to the gearbox is supplied by a hydraulic motor with an electric motor acting as an alternate power source. A reduction gear train maintains output speed and torque for proper operation of the leading edge slats. A right angle drive takeoff, at the output shaft, provides feedback of actual slat extension to the slat drive control unit assembly.

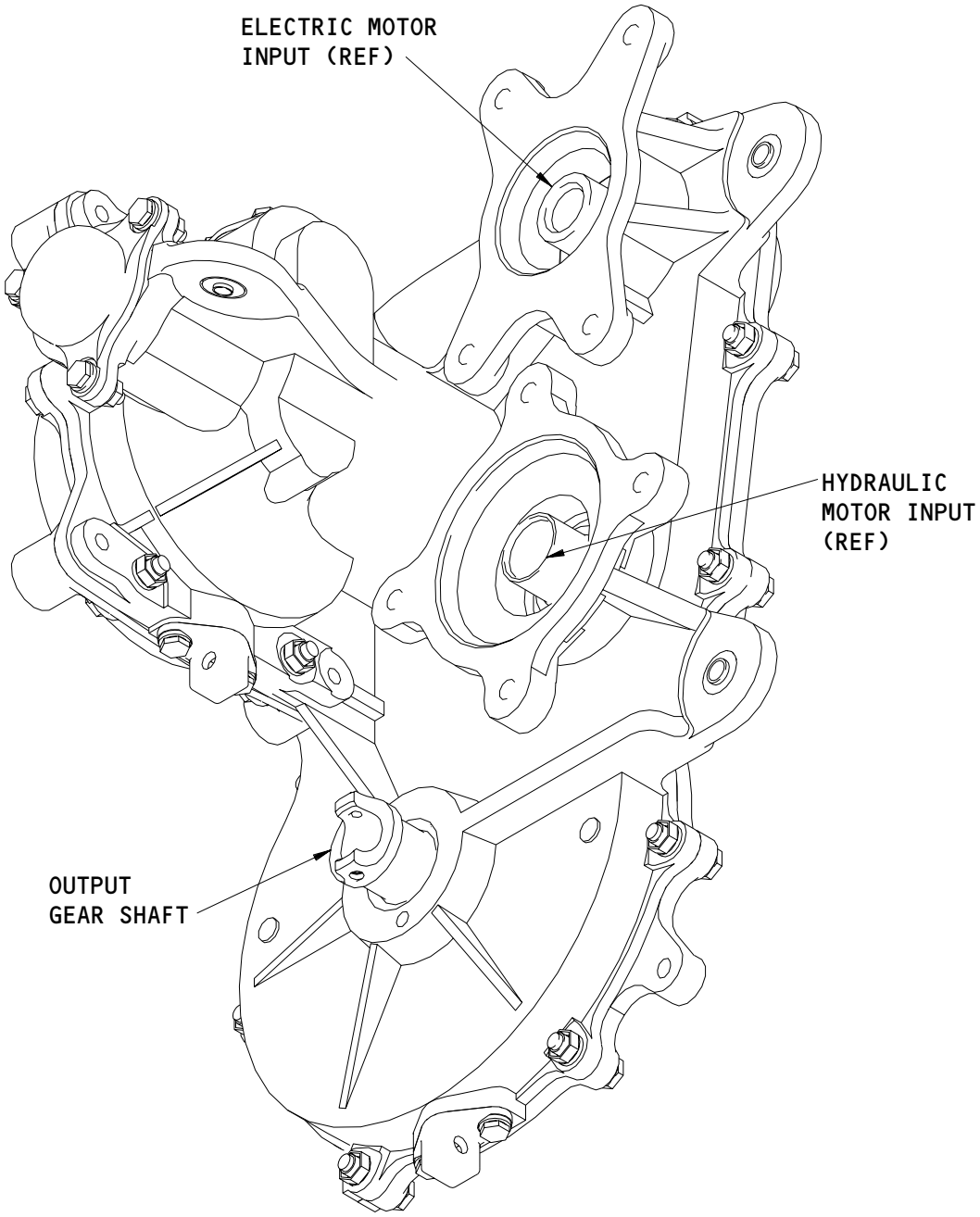
3. Leading Particulars (Approximate)

   A. Length -- 12 inches

   B. Width -- 12 inches

   C. Height -- 17 inches

   D. Weight -- 21 pounds



Outboard Leading Edge Slat Drive – Power Drive Unit Gearbox Assembly
Figure 1

TESTING AND FAULT ISOLATION

1. General

   A. This procedure has the data necessary to do a test of the mechanism after an overhaul or for fault isolation.

   B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

   C. Refer to IPL Fig. 1 for item numbers.

2. Testing and Fault Isolation

   A. Special Tools and Equipment

      NOTE: Equivalent tool/equipment can be used.

      (1) A27048-6, Check Fixture

      (2) A27051-2, Lock Assembly

      (3) A27051-8, Crank Assembly

      (4) A27051-7, Clamp Assembly

   B. References

      (1) 27-81-73/301, Disassembly

      (2) 27-71-73/701, Assembly

   C. Procedure

      (1) Install the gearbox assembly on the A27048-6, check fixture.

      (2) With no load applied to the output shaft (75), turn both the hydraulic and electric input shaft (130, 145) to provide a minimum of two revolutions of the output shaft in each direction. There shall be no significant roughness or binding.

      (3) Install the A27051-8, input crank assembly in the hydraulic motor input shaft (145), and install the A27051-7, clamp assembly on crank.

(4) Apply a 5-10 lb-in torque to the motor input and measure backlash at the clamp assembly scribe line. Check that backlash is 0.016-0.080 in.

NOTE: This measurement is the same as a backlash of 0.002-0.010 in at the pitch line of the input spline.

(5) Remove the input crank assembly and clamp assembly from the hydraulic motor input.

(6) Install the input crank assembly and the clamp assembly in the electric motor input shaft (130).

(7) Do step (5) again.

(8) Remove the input crank assembly and clamp assembly (10).

(9) Remove the gearbox assembly from the check fixture.

(10) If backlash is within limits and bearings feel free and smooth-running when turned by hand, lubricate gearbox, and assemble as shown in Assembly section.

D. Corrective Procedures

(1) If backlash is within limits, but movement is rough or not free, correct as follows:

(a) Disassemble the gearbox.

(b) Visually check the gears for pitting or other obvious defects.

(c) Replace the gears as required.

(d) Replace all the bearings.

(e) Assemble the unit as shown in Assembly section.

(f) Test as shown in par. C.

(2) If backlash exceeds the limit, correct as follows.

(a) Disassemble the gearbox assembly.

(b) Visually check the gears for signs of wear.

(c) Check that the gear bearing pattern is located in center of area of pitch diameters.

(d) If gears are not damaged, replace the bearings.

(e) Assemble the unit as shown in Assembly section.

(f) Test as shown in par. C.

(g) If backlash is still out of range, disassemble the unit and replace all gears.

(h) Assemble the unit as shown in Assembly section.

(i) Test as shown in par. C.

DISASSEMBLY

1. General

   A. This procedure has the data necessary to disassemble the gearbox assembly.

   B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.

   C. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

   D. Refer to IPL Fig. 1 for item numbers.

2. Disassembly

   A. Special Tools

      NOTE: Equivalent tool can be used.

      (1) A27051-10, Wrench

      (2) A27051-4, -6, Spanner Adapter

      (3) A27054-2, Holding Fixture Assembly

      (4) A27054-10, Clamp (2 required)

   B. References

      (1) SOPM 20-50-03, Bearing Removal, Installation and Retention

   C. Procedure

      (1) Use standard industry procedures and the steps shown below to disassemble this component.

      (2) Remove the cap (35) by removing bolts (20), washers (25) and nuts (30).

      (3) Use the A27051-10, wrench, on shaft (75) to lock gear train.

      (4) Use the A27051-4, spanner adapter to remove the nut (80) and the washer (90) from the gear shaft (105).

(5) Remove the bolts (60,40), washers (65, 45), and nuts (55).

(6) Separate the cover (70) from the housing assembly (250).

(7) Remove the gear shaft (75) with bearings (120).

(8) Remove the gear assemblies (130, 145) with bearings (125).

(9) Do not remove plugs (135, 150) from gears (190, 155) unless replacement is necessary. See REPAIR 4-1, 5-1.

(10) If required, repair gears (190, 155) as shown in REPAIR 8-1 and 9-1.

(11) Remove the gear shaft (105) with gear (100) and bearing (115). If necessary, hold the follow-up gear train (200, 220, 225) stationary, and rotate the gear shaft (105) while pulling.

(12) Remove the bearing (110) from the housing assembly (250).

(13) Mount the gear shaft (105) and attached parts in the A27054-2, holding fixture assembly.

(14) Use the A27051-6, spanner adapter to remove the nut (85), washer (95), and bearing (115).

(15) Separate the gear (100) from the gear shaft (105).

(16) Remove the follow-up cover (190) from the housing assembly (250).

(17) Remove the bolts (160), washers (165), and nuts (175).

(18) Remove the gear (200) with the bearings (205, 195).

(19) Remove the gear shaft (225) with the worm gear (220), bearings (205), nut (210), washer (115) and shims (230).

(20) Tag the shim thickness and the location to help with the reassembly.

NOTE: The shim thickness will be calculated during assembly if any of the following parts related to end play are replaced.

(a) Follow-up Cover (190)

(b) Housing Assembly (250)

(c) Bearings (205)

(d) Follow-up Worm Gear (220)

(e) Follow-up Gear Shaft (225)

(21) Hold the worm gear (220) in a vise with A27054-10, clamps.

(22) Use A27051-4, spanner adapter, to remove the nut (210) and washer (215).

(23) Separate the worm gear from the gear shaft (225).

(24) Remove the bolts (235) and washers (240) on the drain cover (15).

(25) Remove the drain covers (15) from the housing assembly (250).

(26) Remove the bolts (235) and washers (240) on the housing assembly (250).

(27) Remove the inspection cover (245) from the housing assembly (250).

(28) Do not remove the bearings (255, 260), inserts (265, 270), or namplate (285, 290) from the housing assembly (250) unless replacement is required.

CLEANING

1. General

   A. This procedure has the data necessary to clean the gearbox assembly.

   B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

   C. Refer to IPL Fig. 1 for item numbers.

2. Cleaning

   A. References

      (1) SOPM 20-30-01, Cleaning and Relubricating Antifriction Bearings

      (2) SOPM 20-30-03, General Cleaning Procedures

   B. Procedure

      (1) Clean all parts except bearings (110, 115, 120, 125, 195, 205, 255, 260, IPL Fig. 1) using standard industry pralctices and as shown in SOPM 20-30-03.

      (2) Clean the bearings (255, 260, IPL Fig. 1) as shown in SOPM 20-30-01, method 1. Relubricate with MIL-G-21164 grease, 0.0001-0.0003 inch thick, to ball bore and ID of race.

      (3) Clean the bearings (110, 115, 120, 125, 195, 205, IPL Fig. 1) as shown in manufacturer's instructions.

CHECK

1. General

   A. This procedure has the data necessary to find defects in the material of the specified parts.

   B. Refer to FITS AND CLEARANCES for the design dimension and wear limits.

   C. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

   D. Refer to IPL Fig. 1 for item numbers.

2. Check

   A. References

      (1) SOPM 20-20-01, Magnetic Particle Inspection

      (2) SOPM 20-20-02, Penetrant Methods of Inspection

   B. Procedure

      (1) Use standard industry procedures to do a visual check of all the parts for defects. Do the penetrant or magnetic particle check if the visual check shows possible damage or if you suspect possible damage on the parts listed below:

      (2) Do a magnetic particle check (SOPM 20-20-01) of these parts:

         (a) Washer (95)

         (b) Gear (100)

         (c) Plug (135, 150)

         (d) Gear (140, 155)

         (e) Gear Shaft (75, 105, 225)

      (3) Do a penetrant check (SOPM 20-20-02) of these parts:

         (a) Cap (35)

         (b) Cover (70, 190)

(c) Gear (200, 220)

(d) Housing (250)

(4) Check the gear teeth and the splines for uneven wear.

REPAIR - GENERAL

1. General

A. Instructions for repair, refinish, and replacement of the specified subassembly parts are included in each REPAIR when applicable:

PART NUMBER	NAME	REPAIR
---	REFINISH OF OTHER PARTS	1-1
256T2727	FOLLOW-UP GEAR SHAFT	2-1
256T5124	NAMEPLATE	3-1
256T5521	HOUSING	4-1
256T5525	GEAR SHAFT	5-1

2. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in Fig. 601.

—	STRAIGHTNESS
▱	FLATNESS
⊥	PERPENDICULARITY (OR SQUARENESS)
//	PARALLELISM
○	ROUNDNESS
⌭	CYLINDRICITY
⌒	PROFILE OF A LINE
⌓	PROFILE OF A SURFACE
◎	CONCENTRICITY
≡	SYMMETRY
∠	ANGULARITY
↗	RUNOUT
↗↗	TOTAL RUNOUT
⌴	COUNTERBORE OR SPOTFACE
∨	COUNTERSINK
⌖	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
∅	DIAMETER
S ∅	SPHERICAL DIAMETER
R	RADIUS
SR	SPHERICAL RADIUS
()	REFERENCE
BASIC (BSC) OR [DIM]	A THEORETICALLY EXACT DIMENSION USED TO DESCRIBE SIZE, SHAPE OR LOCATION OF A FEATURE FROM WHICH PERMISSIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR NOTES.
[-A-]	DATUM
Ⓜ	MAXIMUM MATERIAL CONDITION (MMC)
Ⓛ	LEAST MATERIAL CONDITION (LMC)
Ⓢ	REGARDLESS OF FEATURE SIZE (RFS)
Ⓟ	PROJECTED TOLERANCE ZONE
FIM	FULL INDICATOR MOVEMENT

EXAMPLES

— | 0.002	STRAIGHT WITHIN 0.002
⊥ | 0.002 | B	PERPENDICULAR TO B WITHIN 0.002
// | 0.002 | A	PARALLEL TO A WITHIN 0.002
○ | 0.002	ROUND WITHIN 0.002
⌭ | 0.010	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER
⌒ | 0.006 | A	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART RELATIVE TO DATUM PLANE A
⌓ | 0.020 | A	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.02 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
◎ ∅ 0.0005 | C	CONCENTRIC TO C WITHIN 0.0005 DIAMETER
≡ | 0.010 | A	SYMMETRICAL WITH A WITHIN 0.010
∠ | 0.005 | A	ANGULAR TOLERANCE 0.005 WITH A
⌖ ∅ 0.002 Ⓢ | B	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
⊥ ∅ 0.010 Ⓜ | A 0.510 Ⓟ	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010-INCH DIAMETER, PERPENDICULAR TO, AND EXTENDING 0.510-INCH ABOVE, DATUM A, MAXIMUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	THEORETICALLY EXACT DIMENSION IS 2.000

NOTE: DATUM MAY APPEAR AT EITHER SIDE OF TOLERANCE FRAME

0.020 | A	
A | 0.020	

True Position Dimensioning Symbols
Figure 601

KD7070

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

   A. This procedure has the data necessary to refinish the parts which are not given in the specified repairs.

   B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

   C. Refer to IPL Fig. 1 for item numbers.

2. Refinish of Other Parts

   A. General

      (1) Instructions for the repair of the parts listed in Table 601 are for repair of the initial finish.

   B. Consumable Materials

      NOTE: Equivalent material can be used.

      (1) C00259 Primer -- BMS 10-11, Type 1 (SOPM 20-60-02)

   C. References

      (1) SOPM 20-30-02, Stripping of Protective Finishes

      (2) SOPM 20-30-03, General Cleaning Procedures

      (3) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

      (4) SOPM 20-41-02, Application of Chemical and Solvent Resistant Finishes

(5) SOPM 20-42-05, Bright Cadmium Plating

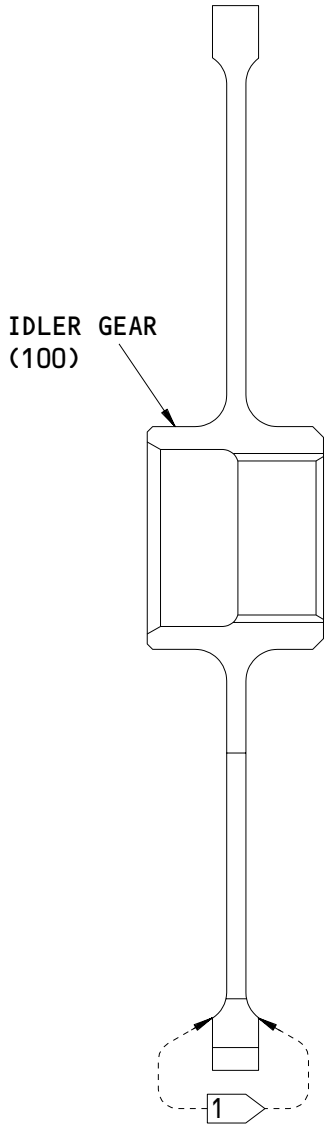
(6) SOPM 20-43-01, Chromic Acid Anodizing

(7) SOPM 20-60-02, Finishing Materials

D. Procedure

IPL FIG. & ITEM	MATERIAL	FINISH
IPL Fig. 1		
Cap (35)	Aluminum alloy	Anodize (F-17.05) and apply BMS 10-11, Type 1 primer (F-20.02) to all surfaces and bolt holes except faying surface.
Cover (70)	Aluminum alloy	Boric acid-sulfuric acid anodize (F-17.35) all over. Apply BMS 10-11, Type 1 primer (F-20.03) to all surfaces and bolt holes except as shown in Fig. 604.
Washer (95) Plug (135, 150)	4130 Steel 125-145 ksi	Cadmium plate (F-15.06).
Gear (100)	9310 Steel 150-190 ksi	Cadmium plate (F-15.42) except cadmium plate (F-15.23) as shown in Fig. 601.
Cover (190)	Aluminun alloy	Anodize (F-17.05) and apply BMS 10-11, Type 1 primer (F-20.02) on external surface and bolt holes except as shown in Fig. 602.
Gear (200)	Aluminum alloy	Chromic acid anodize (F-17.04) all over. Apply BMS 10-11, Type 1 primer (F-20.02) except as shown in Fig. 603.
Gear (220)	Al-Ni-Bronze alloy	Cadmium plate (F-15.06) except plating thickness 0.00015-0.00050 inch allowed on worm gear teeth. Uncontrolled plating thickness is acceptable in the bore.
Cover (245)	Alunimum alloy	Chromic acid anodize (F-17.04) and apply one coat BMS 10-11, Type 1 primer (F-20.02). Primer is optional in holes.

Refinish Details
Table 601

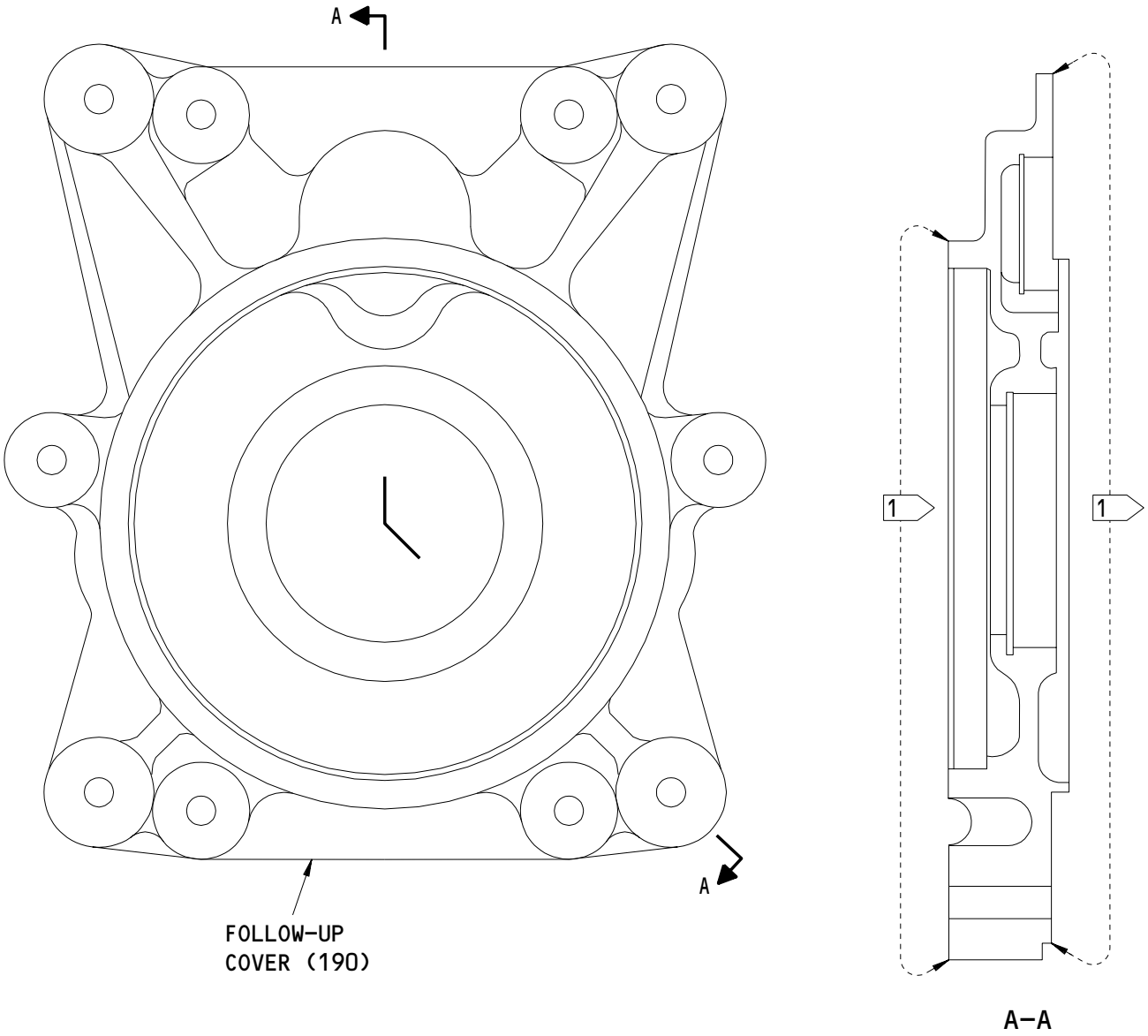


1 CADMIUM PLATE (F-15.23)

ITEM NUMBERS REFER TO IPL FIG. 1

256T5526-1
Refinish of Idler Gear
Figure 601

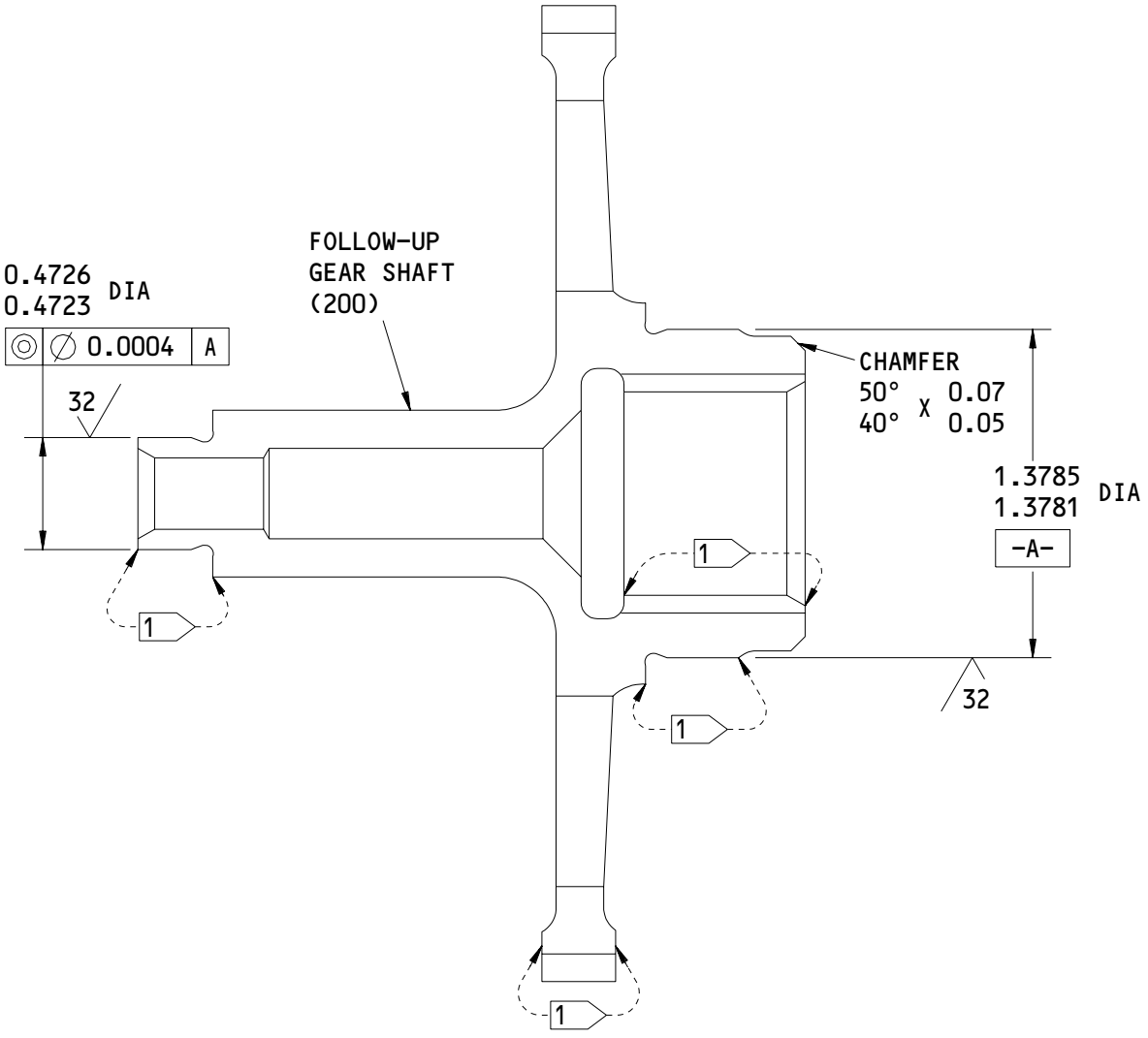
K30572



1 NO PRIMER (F-20.02) ON THIS SURFACE

ITEM NUMBER REFERS TO IPL FIG. 1

256T2716-1
Follow-Up Cover Refinish
Figure 602



1 NO BMS 10-11 TYPE 1, PRIMER ON THIS SURFACE

63 ON GEAR AND SPLINE TEETH

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

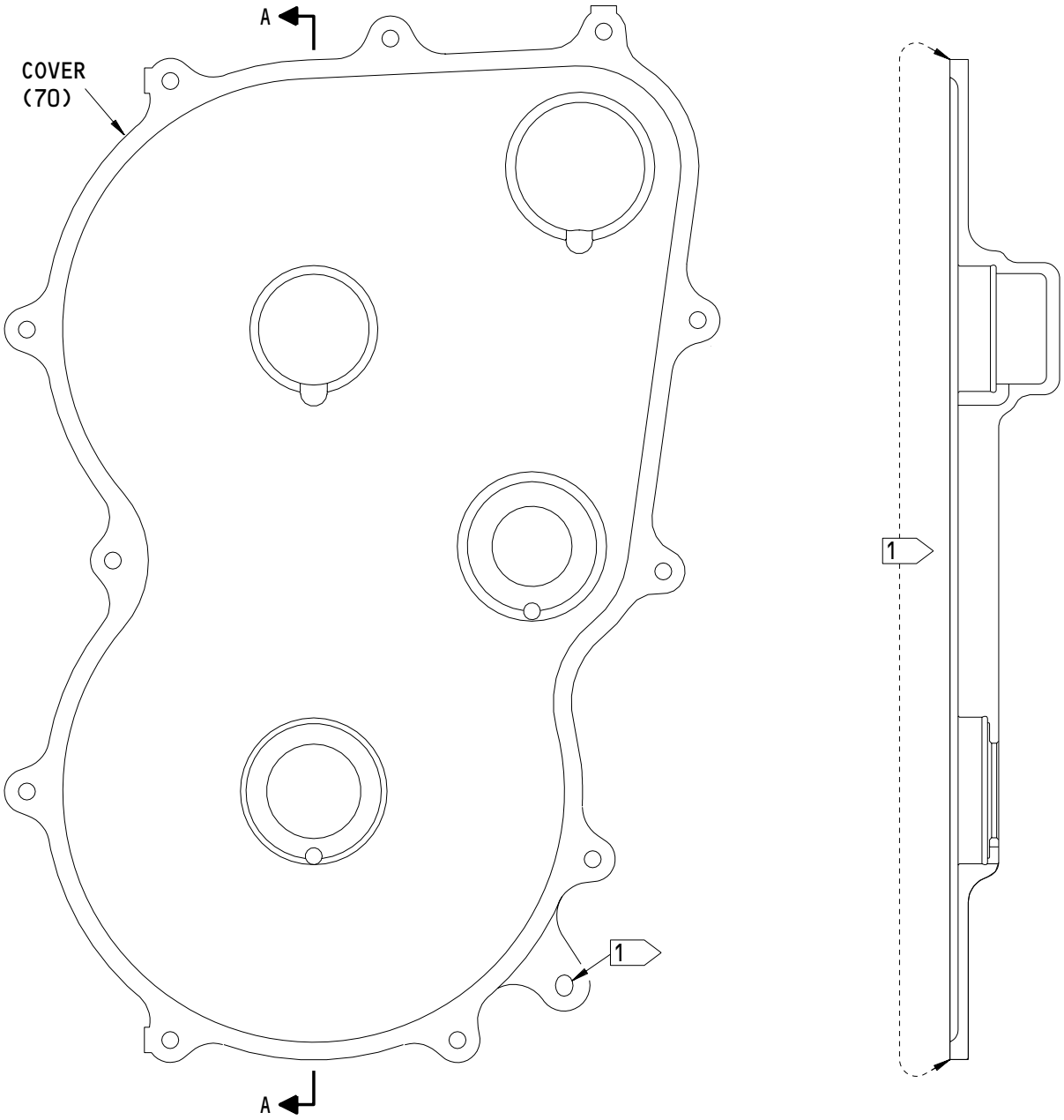
BREAK ALL SHARP EDGES APPROXIMATELY 0.008

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY AFTER ANODIZING

256T2728-1
Follow-Up Gear Shaft Refinish
Figure 603



125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

1 NO BMS 10-11 ON THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 1

256T5522-1
Cover Refinish
Figure 604

FOLLOW-UP GEAR SHAFT ASSEMBLY - REPAIR 2-1

256T2727-1

1. General

A. This procedure has the data necessary to repair and refinish the gear shaft (225).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

C. Refer to the REPAIR - GENERAL (27-81-73/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 4340 steel, 150-170 ksi

(2) Shot peen: All repaired surfaces
Shot size: Refer to SOPM 20-10-03
Intensity: 0.006A
Coverage: 2.0

2. Gear Shaft Repair

A. References

(1) SOPM 20-10-01, Repair and Refinish of High Strength Steel Parts

(2) SOPM 20-10-02, Machining of Alloy Steel

(3) SOPM 20-10-03, Shot Peening

(4) SOPM 20-10-04, Grinding of Chrome Plated Parts

(5) SOPM 20-20-01, Magnetic Particle Inspection

(6) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

(7) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

(1) Machine the shaft (225) as necessary to remove wear or corrosion. Do not machine more than the limit shown.

(2) Break all sharp edges.

(3) Do a magnetic particle check of the machined area. Refer to SOPM 20-20-01.

(4) Shot peen the machined area. Refer to SOPM 20-10-03.

(5) Build up the machined surface with chrome plate (F-15.03).

NOTE: Chrome plate is not permitted in the fillet radii or on the edges of the part.

(6) Grind the chrome plate to the design dimensions and finish shown. Refer to SOPM 20-10-04. Make sure that the chrome plate is not more tha 0.015 inch thick after you grind the surface. The chrome plate runout is 0.015-0.030 inch, and must stop at the edge of the repaired surface.

(7) Do a magnetic particle check of the repaired surface. Refer to SOPM 20-20-01.

3. Gear Shaft Refinish

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) C00259 Primer -- BMS 10-11, type 1 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

(3) SOPM 20-41-02, Application of Chemical and Solvent Resistant Finishes

(4) SOPM 20-42-05, Bright Cadmium Plating

(5) SOPM 20-60-02, Finishing Materials

C. Procedures (Fig. 601)

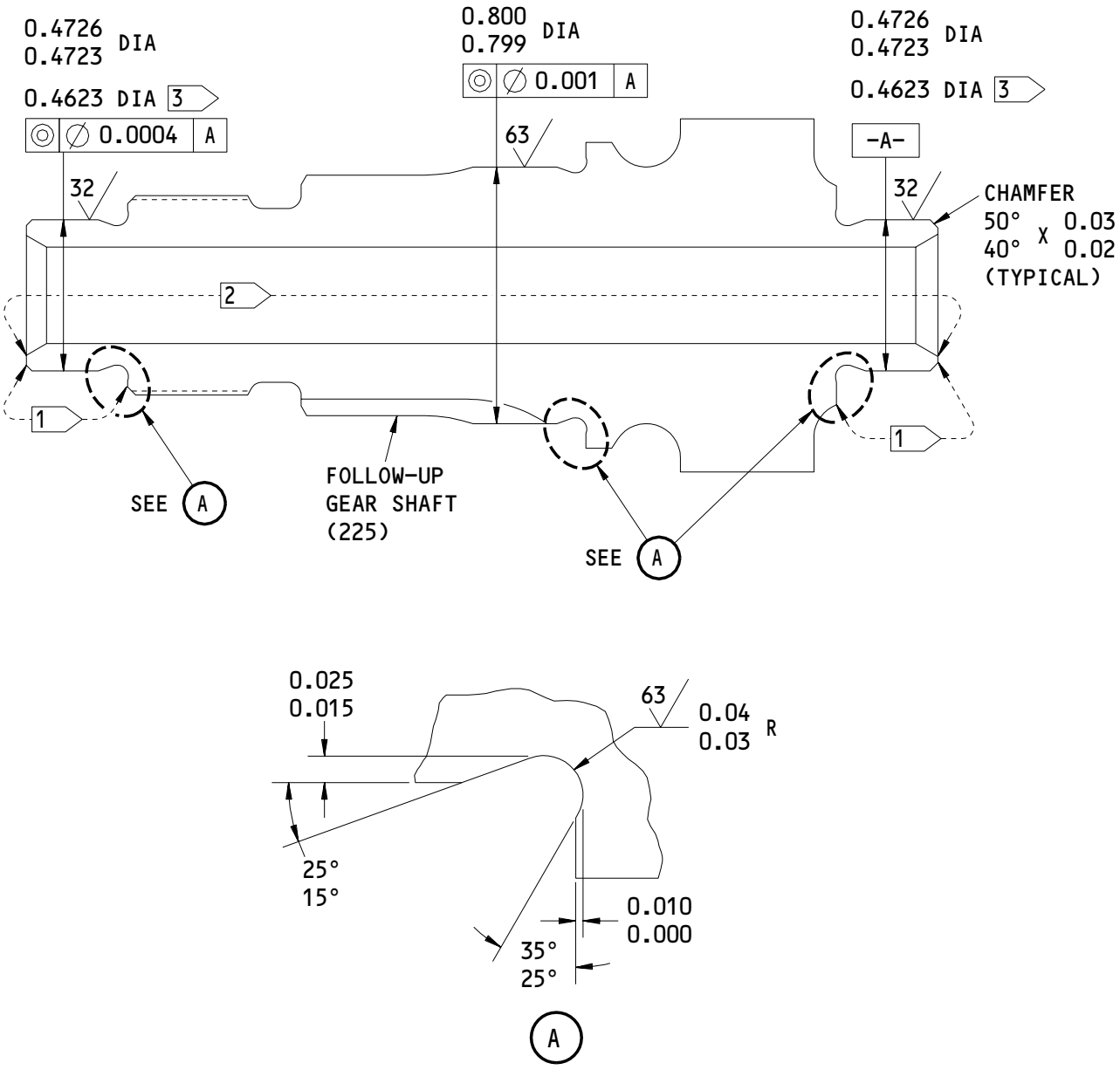
(1) On the outside surfaces -- Cadmium plate (F-15.06), unless shown differently. Plating thickness of 0.00015-0.00050 inch is permitted on the gear teeth.

(2) In the bore and on the end chamfers --

(a) Phosphate treat (F-18.02), but do not apply the oil treatment. Apply BMS 10-11, type 1 primer (F-20.03) and MIL-C-11796, class 1 corrosion preventive compound (F-19.03).

(b) Optional: Cadmium plate (F-15.06), but it is not necessary to control the plating thickness. Apply BMS 10-11, type 1 primer (F-20.03).

NOTE: There must be signs of plating on all surfaces.



1 APPLY NO FINISH ON THIS SURFACE

2 PHOSPHATE TREAT (F-18.02). APPLY BMS 10-11 TYPE 1, PRIMER (F-20.03) AND CORROSION PREVENTIVE COMPOUND (F-19.03) ON THESE SURFACES

3 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256T2727-1
Follow-up Gear Shaft Repair and Refinish
Figure 601

K30894

NAMEPLATE - REPAIR 3-1

256T5124-3, -4, -18

1. General

A. This procedure has the data necessary to replace the nameplates (285, 290).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

C. Refer to the REPAIR - GENERAL (27-81-73/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Fig. 1 for item numbers.

2. Nameplate Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) A00292 Adhesive -- BMS 5-105, Type 2, Class 1 or 2 (SOPM 20-60-04)

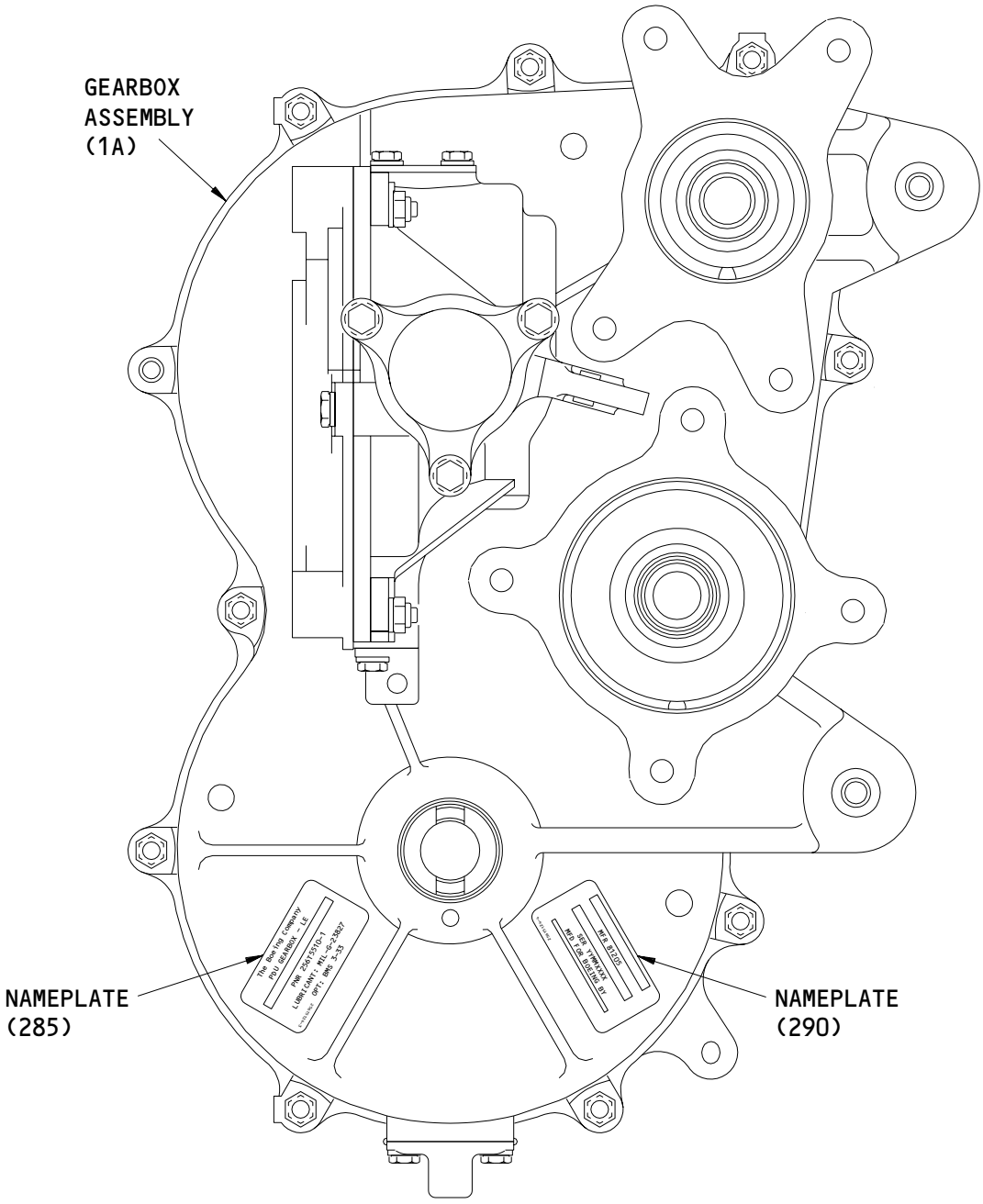
B. References

(1) SOPM 20-50-12, Application of Adhesives

C. Procedures

(1) Remove the nameplate (285, 290) if damaged.

(2) Attach new nameplates as shown in SOPM 20-50-12, Type 89 (Type 70 optional). Locate the nameplates as shown in Fig. 601.



ITEM NUMBERS REFER TO IPL FIG. 1

256T5124-3,-4,-18
Replacement of Nameplates
Figure 601

K30577

HOUSING ASSEMBLY - REPAIR 4-1

256T5521-1, -4

1. General

A. This procedure has the data necessary to repair and refinish the housing assembly (280).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

C. Refer to the REPAIR - GENERAL (27-81-73/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: Aluminum alloy

2. Bearing Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) C00259 Primer -- BMS 10-11, Type 1 (SOPM 20-60-02)

(2) A00247 Sealant -- BMS 5-95 (SOPM 20-60-04)

B. References

(1) SOPM 20-50-03, Bushing and Bearing Replacement

(2) SOPM 20-60-02, Finishing Materials

(3) SOPM 20-60-04, Miscellaneous Materials

C. Procedures

(1) Remove the bearings (255, 260) from the housing (280).

(2) Install the bearings onto the housing using BMS 5-95 sealant as shown in SOPM 20-50-03 and Fig. 601.

(3) Swage the bearing using Type 1 groove configuration as shown in SOPM 20-50-03.

(4) Do the pushout load test for bearing (255, 260) as shown in SOPM 20-50-03. The pushout load for bearing (255) is 1048 pounds. The pushout load for bearing (260) is 1148 pounds.

3. Housing Refinish

A. Consumable Materials

(1) COO259 Primer -- BMS 10-11, type 1 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

(3) SOPM 20-41-02, Application of Chemical and Solvent Resistant Finishes

(4) SOPM 20-42-05, Bright Cadmium Plating

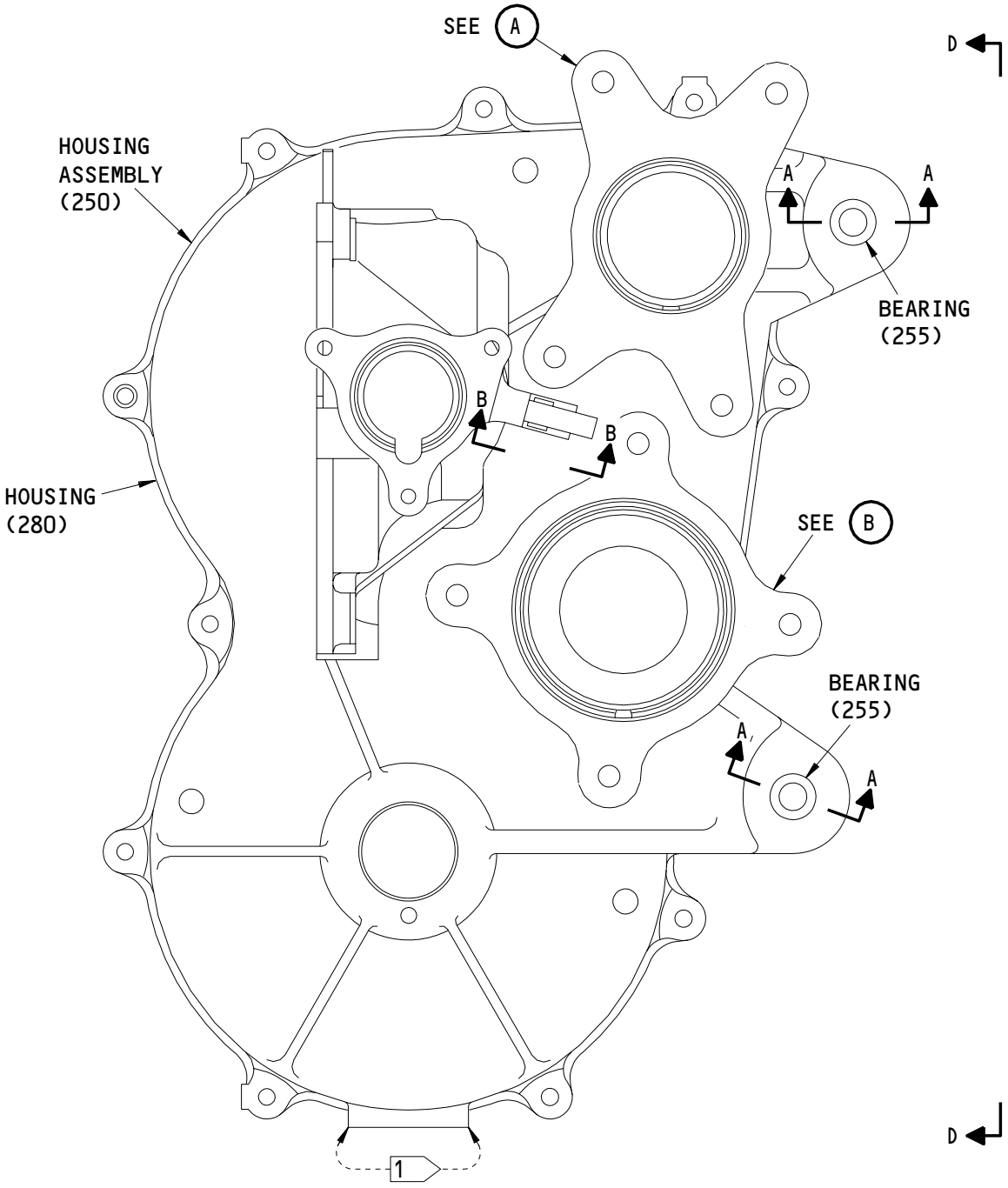
(5) SOPM 20-43-01, Chromic Acid Anodizing

(6) SOPM 20-60-02, Finishing Materials

C. Procedures (Fig. 601)

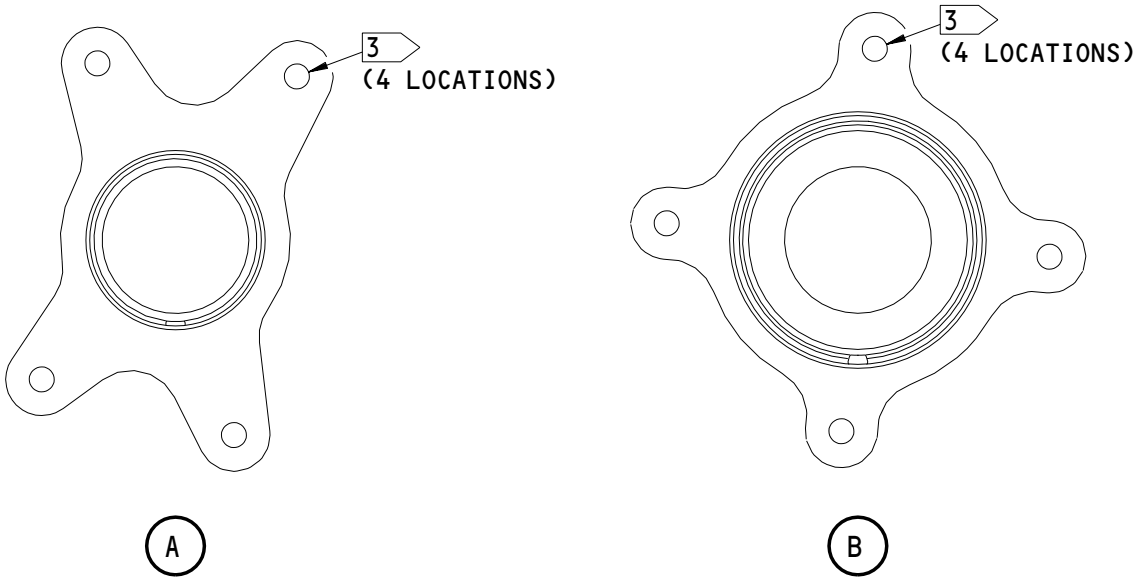
(1) Boric acid-sulfuric acid anodize (F-17.35).

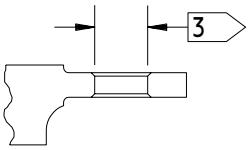
(2) Apply BMS 10-11, type 1 primer (F-20.02) on all external surfaces and in the boltholes, unless shown differently in Fig. 601.



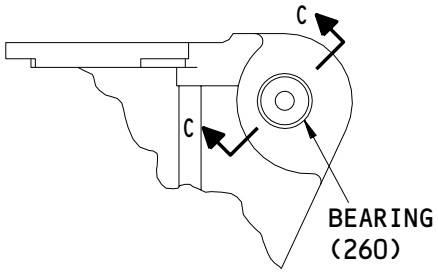
256T5521-1,-4
Housing Assembly Refinish
Figure 601 (Sheet 1)

K33857

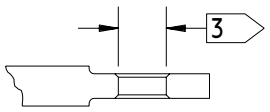




(BEARING (255) NOT SHOWN)
A–A



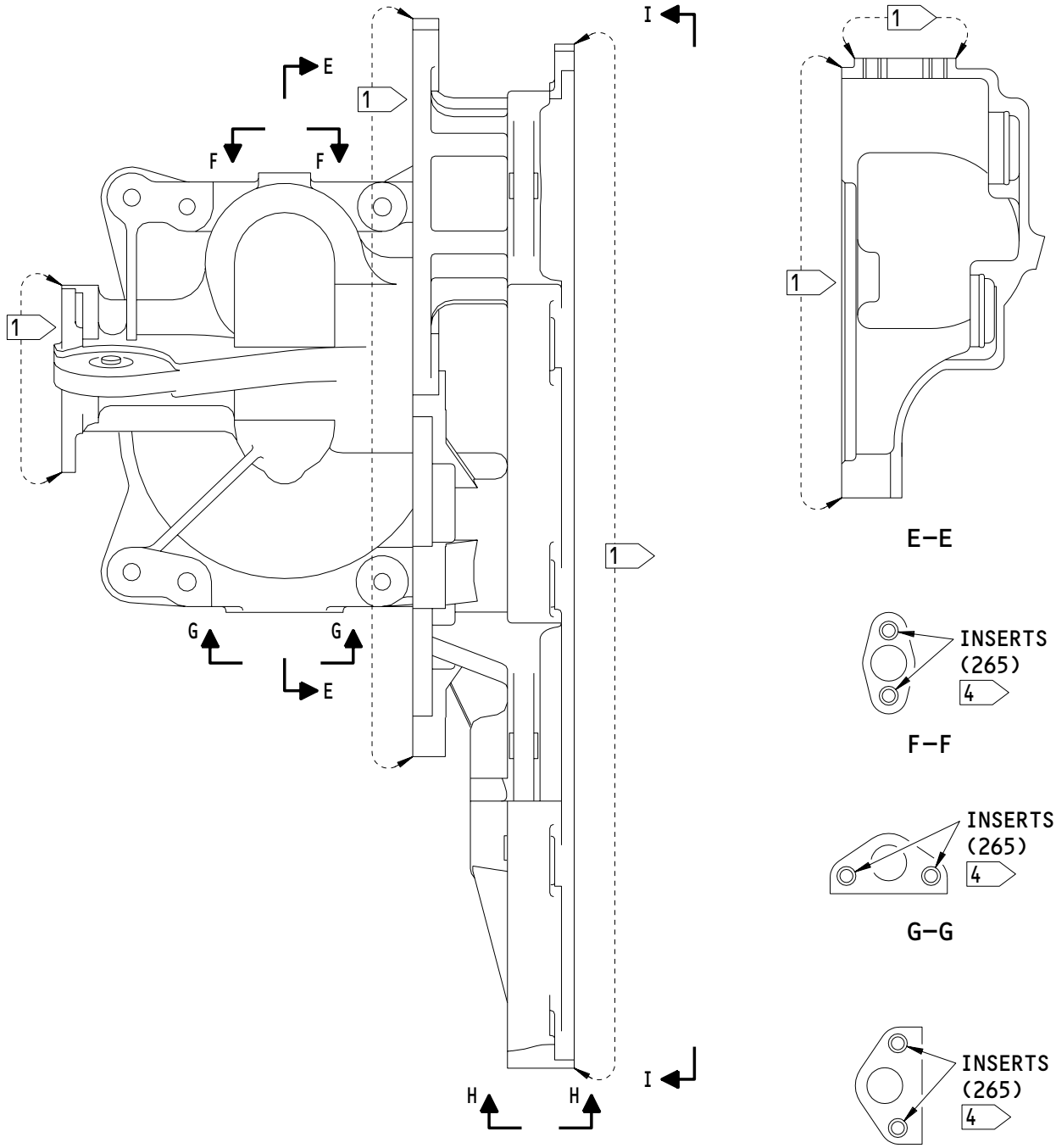
B–B



(BEARING (260) NOT SHOWN)
C–C

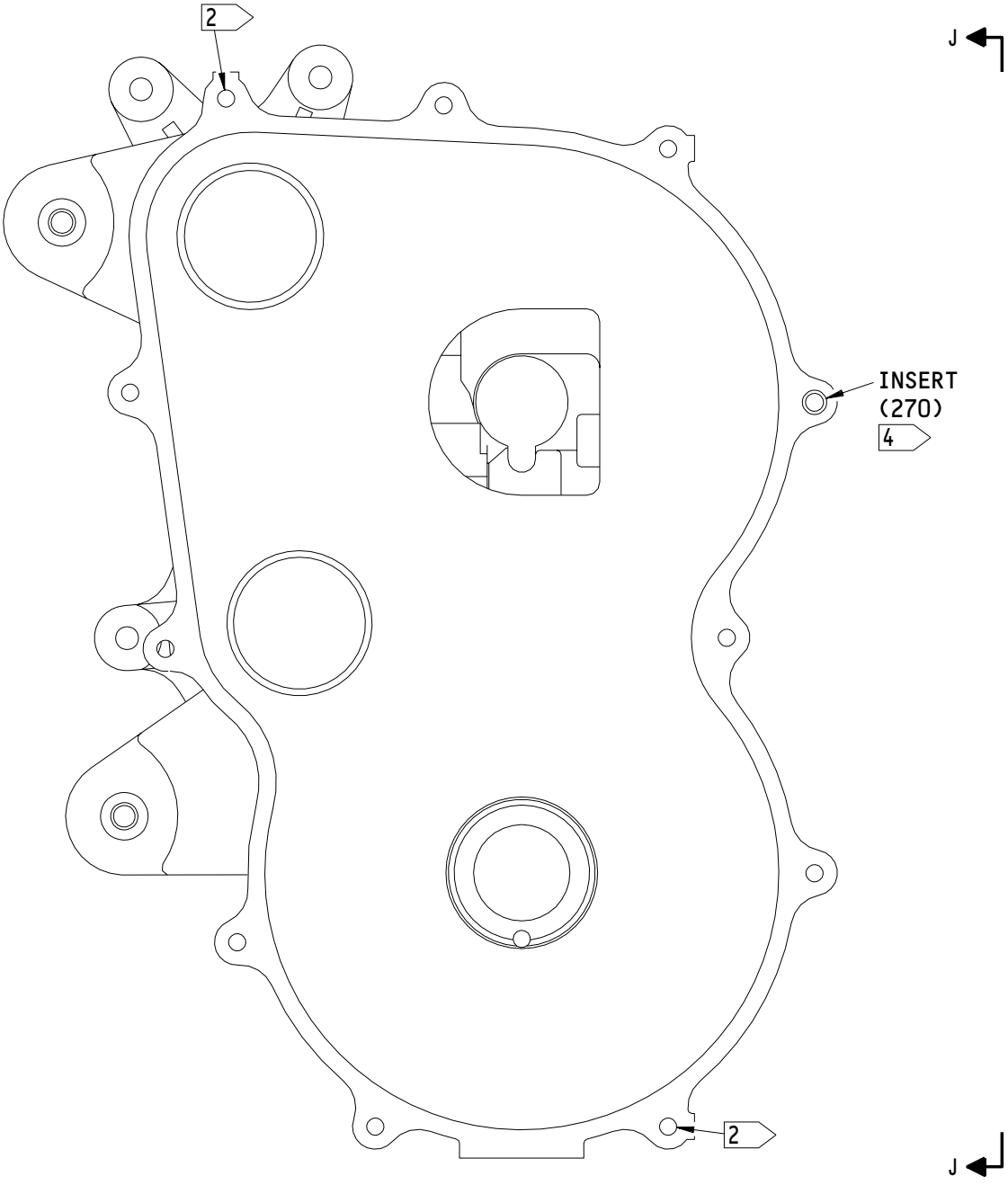
256T5521-1,-4
Housing Assembly Refinish
Figure 601 (Sheet 2)

K33859



256T5521-1,-4
Housing Assembly Refinish
Figure 601 (Sheet 3)

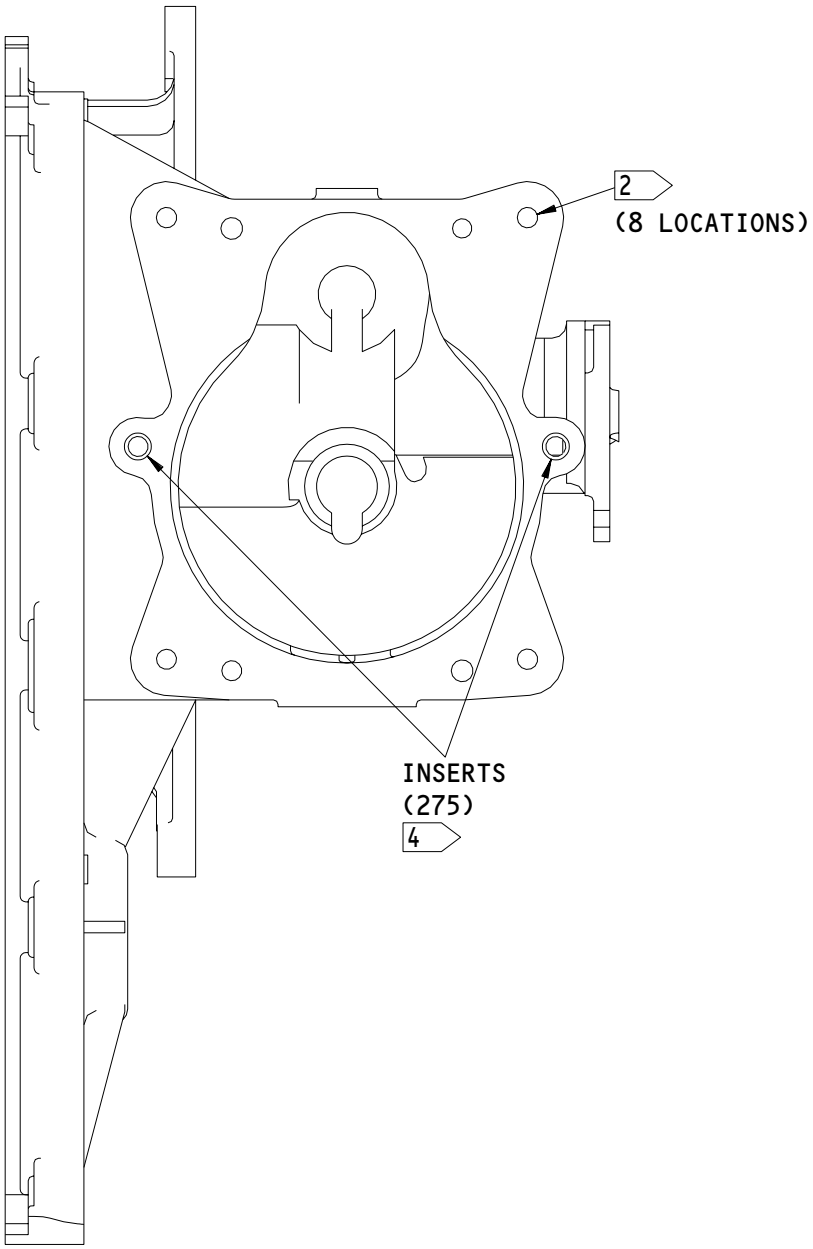
K33861



I–I

256T5521-1,-4
Housing Assembly Refinish
Figure 601 (Sheet 4)

K33862



J–J

1 NO PRIMER ON THIS SURFACE

2 NO PRIMER IN THE BOLT HOLE

3 NO PRIMER IN THE HOLE FOR THE BEARING

4 NO PRIMER IN THE HOLE FOR THE INSERT

ITEM NUMBERS REFER TO IPL FIG. 1

256T5521-1,-4
Housing Assembly Refinish
Figure 601 (Sheet 5)

K33863

GEAR SHAFT - REPAIR 5-1

256T5525-1

1. General

A. This procedure has the data necessary to repair the gear shaft (105).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in the procedure.

C. Refer to the REPAIR - GENERAL (27-81-73/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 4340 steel, 150-170 ksi

(2) Shot peen: All repaired surfaces
Shot size: Refer to SOPM 20-10-03
Intensity: 0.006A
Coverage: 2.0

2. Shaft Repair

A. References

(1) SOPM 20-10-01, Repair and Refinish of High Strength Steel Parts

(2) SOPM 20-10-02, Machining of Alloy Steel

(3) SOPM 20-10-03, Shot Peening

(4) SOPM 20-10-04, Grinding of Chrome Plated Parts

(5) SOPM 20-20-01, Magnetic Particle Inspection

(6) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

(7) SOPM 20-42-03, Hard Chrome Plating

B. Procedures (Fig. 601)

(1) Machine the shaft (105) as necessary to remove wear or corrosion. Do not machine more than the limit shown.

(2) Break all sharp edges.

(3) Do a magnetic particle check of the machined area. Refer to SOPM 20-20-01.

(4) Shot peen the machined area. Refer to SOPM 20-10-03.

(5) Build up the machined surface with chrome plate (F15.03).

NOTE: Chrome plate is not permitted in the fillet radii or on the edges of the part.

(6) Grind the chrome plate to the design dimensions and finish shown. Refer to SOPM 20-10-04. Make sure that the chrome plate is not more than 0.015 inch thick after you grind the surface. The chrome plate runout is 0.015-0.030 inch and must stop at the edge of the repaired surfae.

(7) Do a magnetic particle check of the repaired surface. Refer to SOPM 20-20-01.

3. Gear Shaft Refinish

A. Consumable Materials

(1) C00259 Primer - BMS 10-11, type 1 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

(3) SOPM 20-41-02, Application of Chemical and Solvent Resistant Finishes

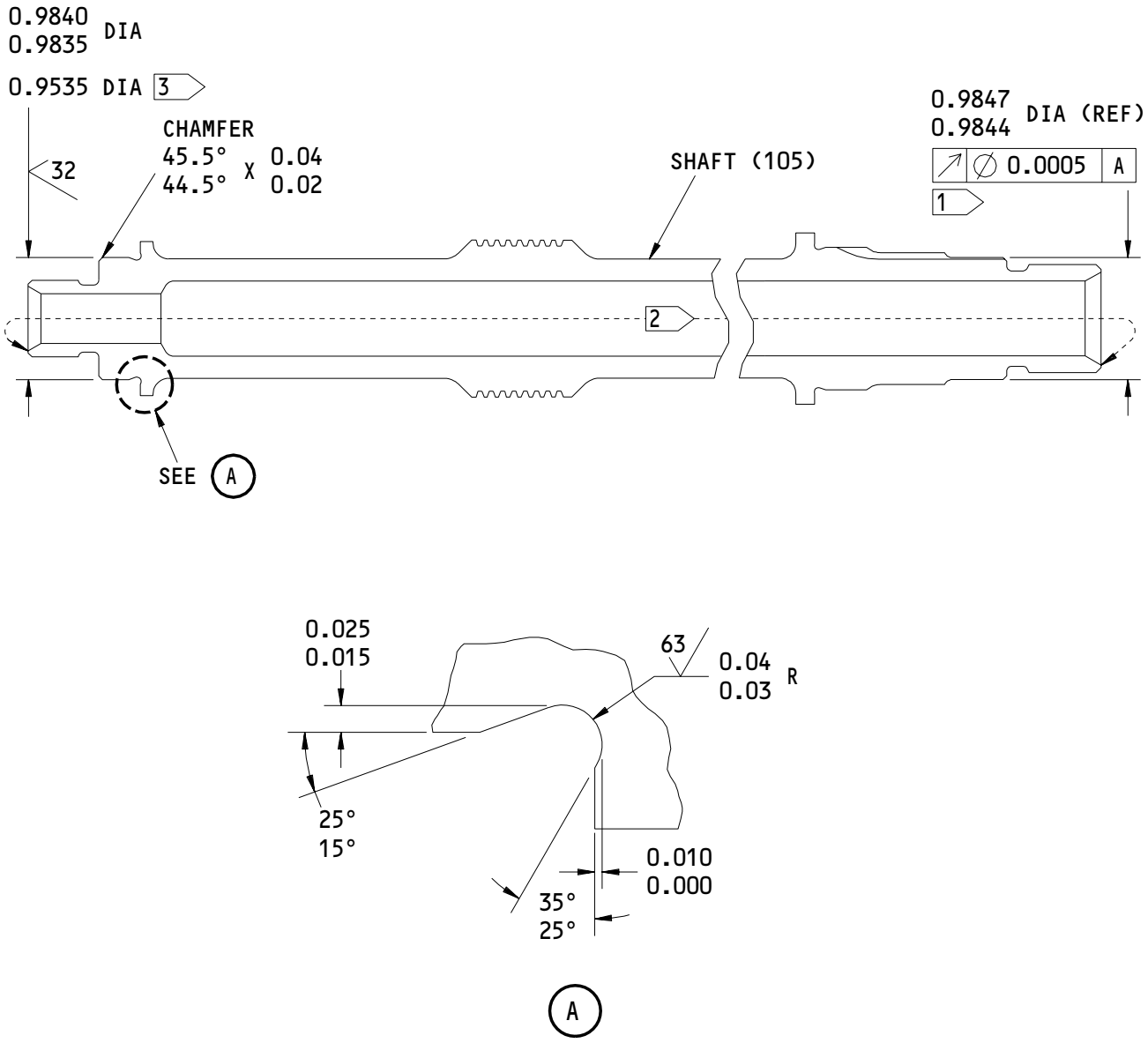
(4) SOPM 20-42-05, Bright Cadmium Plating

(5) SOPM 20-60-02, Finishing Materials

C. Procedures (Fig. 601)

(1) Cadmium plate (F-15.42) the outside surfaces, unless shown differently. Plating throw-in is permitted in the bore.

(2) Apply BMS 10-11, type 1 primer (F-20.02) to the bore, as shown in Fig. 601.



1 APPLY NO FINISH ON THIS SURFACE

2 APPLY BMS 10-11 TYPE 1, PRIMER (F-20.03) ON THESE SURFACES

3 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256T5525-1
Shaft Repair
Figure 601

K30609

ASSEMBLY

1. General

   A. This procedure has the data necessary to assemble the power drive unit gearbox assembly.

   B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.

   C. Refer to IPL Fig. 1 for item numbers.

2. Assembly

   A. Consumable Materials

      NOTE: Equivalent material can be used.

      (1) AOO249 Sealant -- BMS 5-26 (SOPM 20-60-04)

      (2) COO259 Primer -- BMS 10-11, Type 1 (SOPM 20-60-02)

      (3) DOO164 Grease -- MIL-G-23827 (SOPM 20-50-03)

      (4) GO1041 Lockwire -- MS20995NC32

   B. References

      (1) SOPM 20-50-01, Bolt and Nut Installation

      (2) SOPM 20-60-02, Finishing Materials

      (3) SOPM 20-60-04, Miscellaneous Materials

   C. Equipment

      NOTE: Equivalent material can be used.

      (1) A27051-4, -6, Spanner Adapter

      (2) A27051-10, Wrench

      (3) A27048-6, Backlash Check Fixture

      (4) A27051-2, Lock Assembly

(5) A27051-8, Input Crank Assembly

(6) A27051-7, Clamp Assembly

(7) A27054-2, Holding Fixture Assembly

(8) A27054-10, Clamp (2 required)

D. Procedure

(1) Use standard industry procedures and the steps shown below to assemble this component.

(2) Install the follow-up worm gear (220) on gear shaft (225) as shown in Fig. 701.

(3) Mount the worm gear in a vise, using A27054-10, clamps.

(4) Install the washer (90) and nut (80).

(5) Tighten the nut to 300-350 lb-in, using the S27051-4, spanner adapter.

(6) Press the bearings (205) on gear shaft (225).

(7) Select the shims (230).

NOTE: If any of the following parts have been replaced, shim (230) thickness must be calculated as shown in instructions in para. 8. If the following parts have not been replaced, use the same thickness as was recorded during disassembly.

(a) Follow-up Cover (190)

(b) Bearings (205)

(c) Follow-up Worm Gear (220)

(d) Follow-up Gear Shaft (225)

(e) Housing Assembly (250)

(8) Determine the thickness of shims S1 and S2 necessary to obtain end play X1 and X2 of 0.002-0.006 as follows (Fig. 701):

(a) Deleted.

(b) Measure the dimension C which is the distance from the center of the bearing bore in the housing assembly (250) to the mating surface of the cover (190).

(c) Measure the bearing bore depths L and E from the faying surface of the cover (190) and the housing assembly (250).

(d) Measure the dimension D which is the distance between the bearing (205) outer races with an axial load of approximately 5 lb applied between the bearings.

(e) Measure the dimension B from the follow-up worm gear (220) to the outer race of the bearing (205) with an axial load of approximately 5 lb applied to seat the bearing.

(f) Measure the dimension A on the follow-up worm gear (220).

NOTE: The design dimension is 0.547-0.551.

(g) Calculate the thickness of the shims (230) S1 and S2:

S1 = L - C - (B - A) - 0.004
S2 = L + E - D - S1 - 0.008

(h) Select the shims (230) S1 and S2 within ± 0.002.

(9) Install the gear shaft (225) with the shims (230).

(10) Press the bearings (195, 205) on the gear (200) and install in the housing.

(11) Fill the gear teeth spaces of gears (200, 225) with grease.

(12) Attach the cover (190) with the bolts (160), washers (165), and nuts (175).

(13) Install the bolts using wet primer and tighten fasteners to 58-80 lb-in.

(14) Lockwire the bolts using double-twist method.

(15) Apply bead of sealant on seam between cover and housing.

(16) Coat the splines of the gear shaft (105) with grease.

(17) Install the gear (100).

(18) Using A27054-2, holding fixture assembly, install the bearing (115), washer (95), and nut (85) on the gear shaft (105).

(19) Use the A27051-6, spanner adapter, to tighten the nut to 1200-1300 lb-in.

(20) Press the bearing (110) into the housing assembly (250).

(21) Install the gear shaft (105).

(22) Press the bearings (125) on the gear assembly (145) and install in the housing assembly (250).

(23) Fill the gear teeth spaces of the gear shaft (105) and gear assembly (145) with grease.

(24) Press the bearings (125) on the gear assembly (130) and install in the housing assembly (250).

(25) Fill the gear teeth spaces of gear assembly (130) with grease.

(26) Press the bearings (120) on the gear shaft (75) and install into housing assembly (250).

(27) Fill the gear teeth spaces of the gear shaft (75) and gear (100) with grease.

(28) Fill the space between the bearing for gear assembly (145) and the cover (70) with grease as shown in Fig. 702.

(29) Install the cover (70) on the housing assembly (250) and secure with bolts (40, 60), washers (70), and nuts (55).

(30) Install the bolts with wet primer and tighten diagonally opposed fasteners to 58-80 lb-in.

(31) Lockwire the bolts using double-twist method.

(32) Seal the seam between the cover (70) and the housing assembly (250) with a bead of sealant.

(33) Coat the splines of the gear shaft (75) with grease.

(34) Install the washer (90) and nut (80) on the gear shaft (105).

(35) Tighten the nut (80) to 600-700 lb-in using the A27051-4, spanner adapter.

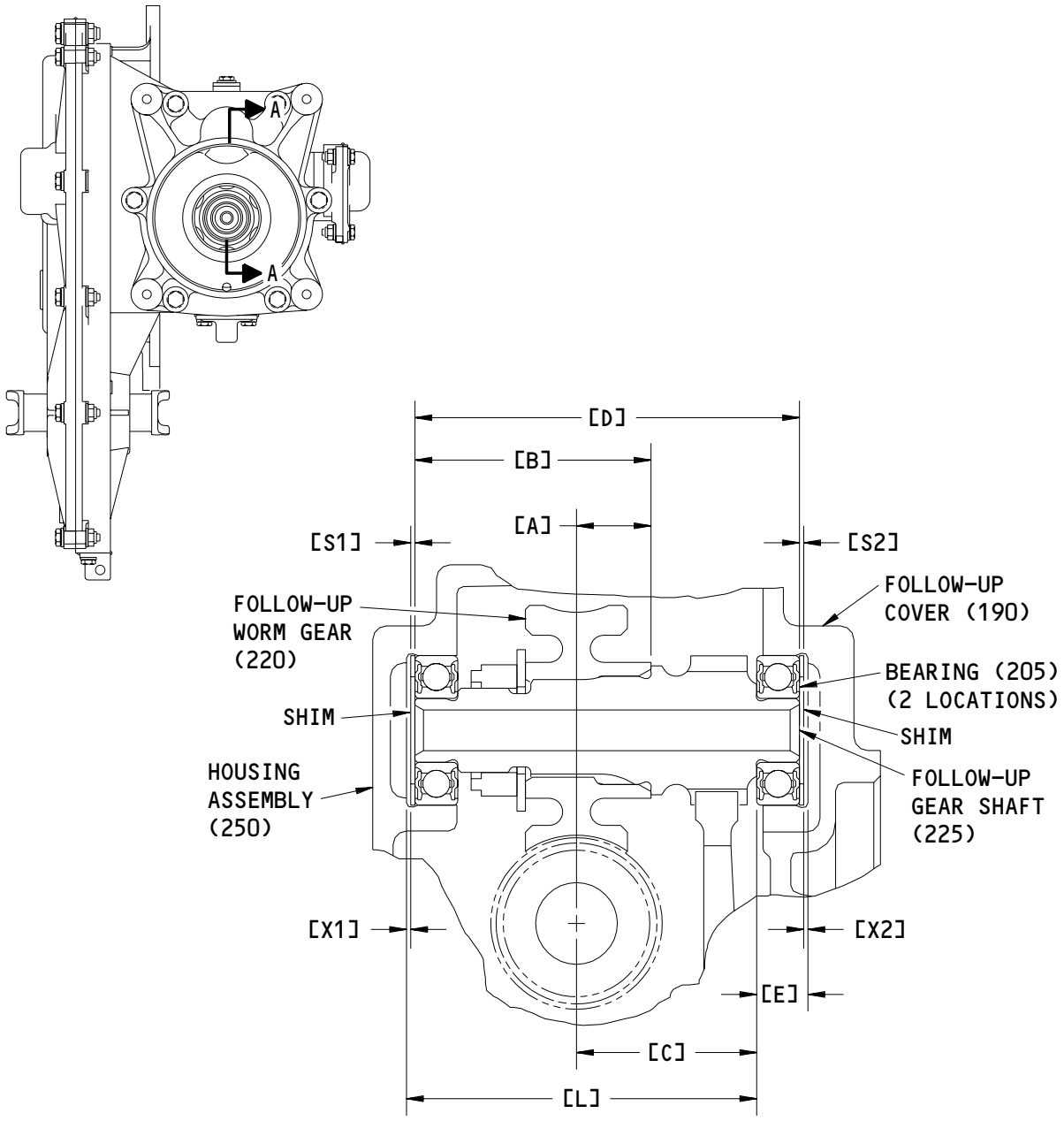
(36) Install the cap (35) with bolts (20) and washers (25) with wet primer. Tighten to 20-30 lb-in.

(37) Seal the seam between the cap (35) and the housing assembly (5, 235) with sealant.

(38) Install the covers (15, 245) with bolts (5, 235) and washers (10, 240) with wet primer and tighten to 20-30 lb-in.

(39) Seal the seam between the cover (15, 245) and the housing assembly (250) with sealant.

(40) Check the backlash per Testing and Fault Isolation.



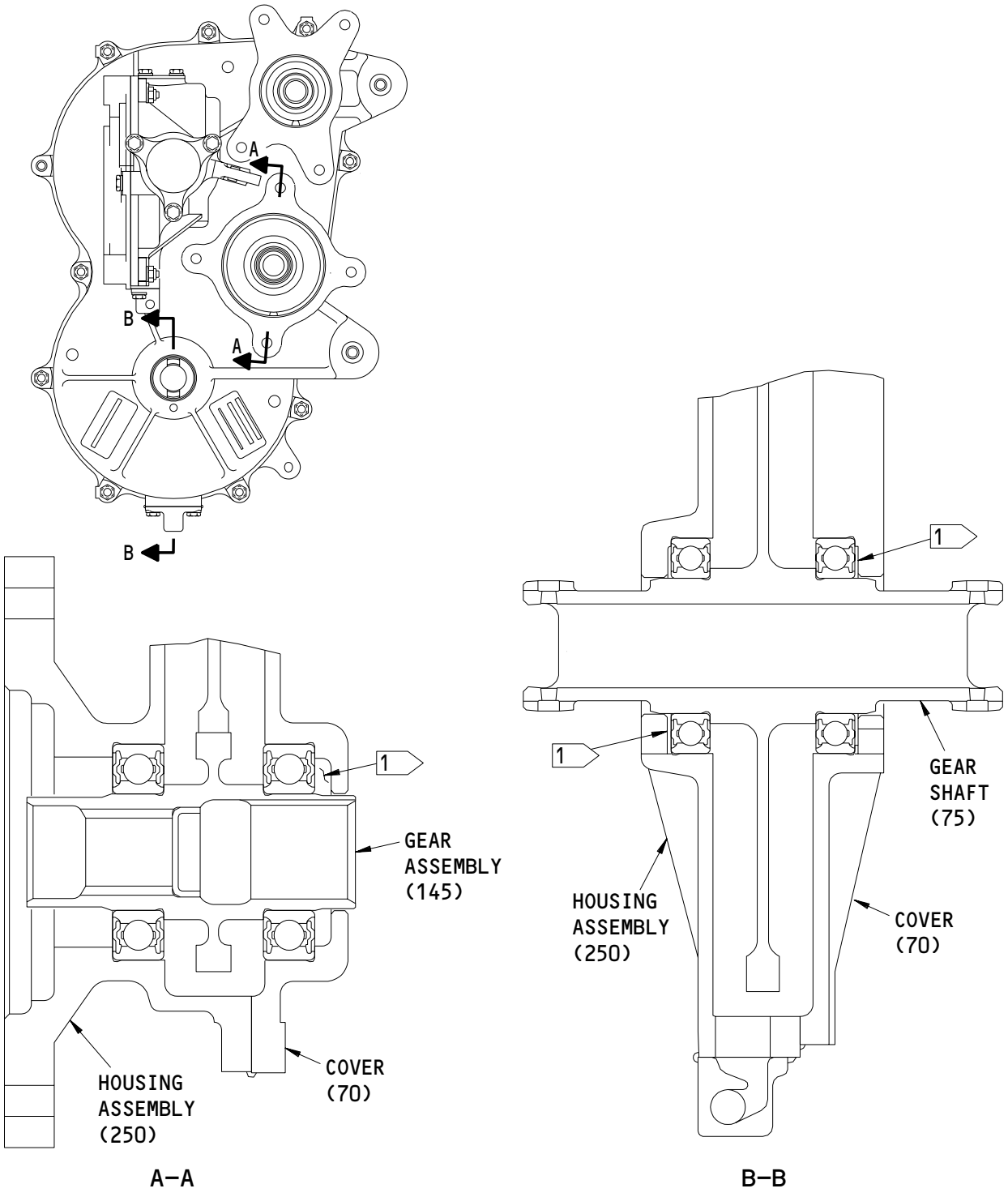
A-A

1 THE DIMENSIONS [C], [E], AND [L] ARE MEASURED FROM THE FAYING SURFACE OF THE FOLLOW-UP COVER (190) AND HOUSING ASSEMBLY (250)

ITEM NUMBERS REFER TO IPL FIG. 1

Endplay Adjustment
Figure 701

K31064

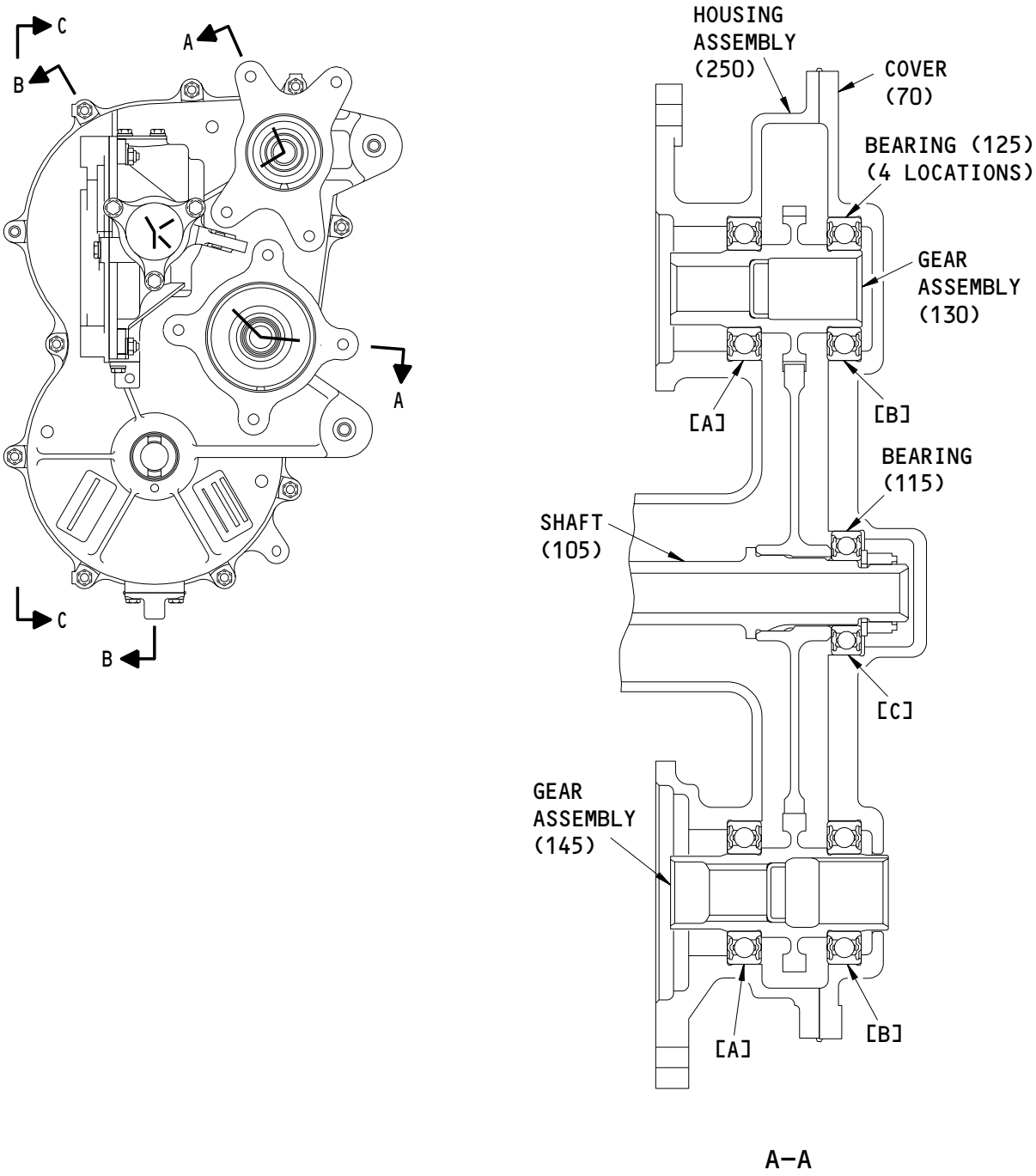


1 FILL POCKET WITH GREASE

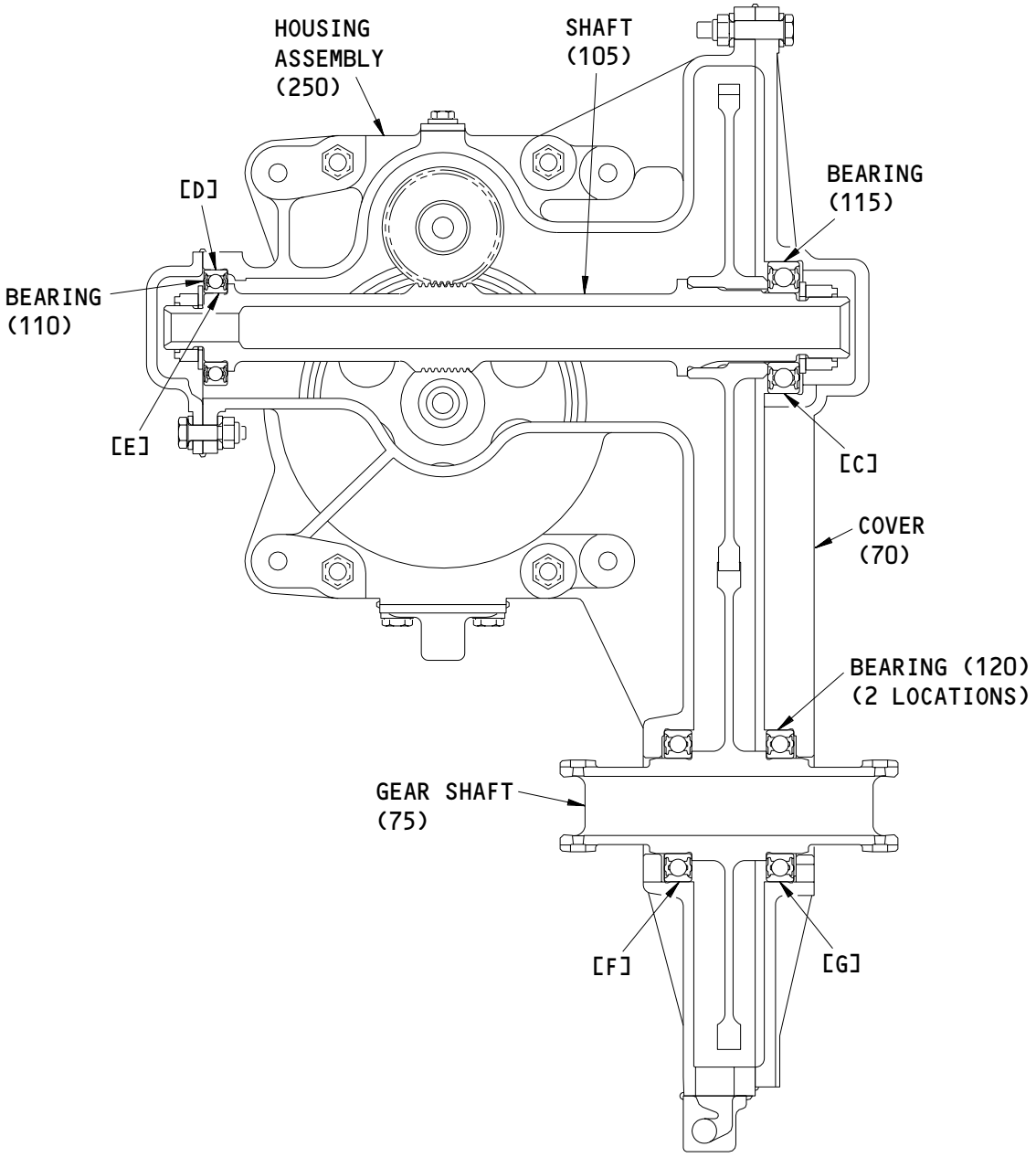
ITEM NUMBERS REFER TO IPL FIG. 1

Assembly Details
Figure 702

K31061

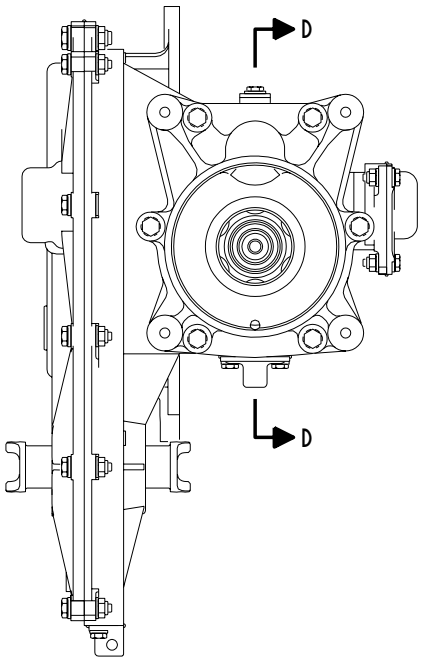


Fits and Clearances
Figure 801 (Sheet 1)

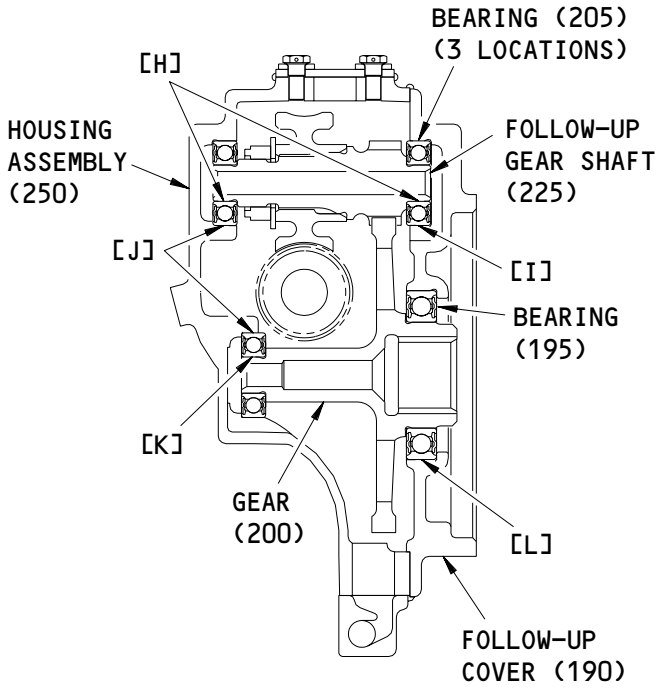


B–B

Fits and Clearances
Figure 801 (Sheet 2)



C–C



D–D

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
		DIMENSION		ASSEMBLY CLEARANCE 1		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[A]	ID 250	2.1654	2.1661	0.0000	0.0012		2.1665	0.0011
	OD 125	2.1649	2.1654			2.1645		
[B]	ID 70	2.1654	2.1661	0.0000	0.0012		2.1665	0.0011
	OD 125	2.1649	2.1654			2.1645		
[C]	ID 70	1.8504	1.8514	0.0000	0.0015		1.8519	0.0015
	OD 115	1.8499	1.8504			1.8494		

Fits and Clearances
Figure 801 (Sheet 3)

K30929

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
		DIMENSION		ASSEMBLY CLEARANCE 1		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[D]	ID 250	1.6535	1.6545	0.0000	0.0015		1.6550	0.0015
	OD 110	1.6530	1.6535			1.6527		
[E]	ID 110	0.9839	0.9843	-0.0001	0.0008		0.9846	0.0006
	OD 105	0.9835	0.9840			0.9832		
[F]	ID 250	2.1658	2.1666	0.0004	0.0017		2.1670	0.0016
	OD 120	2.1649	2.1654			2.1646		
[G]	ID 70	2.1658	2.1661	0.0004	0.0017		2.1670	0.0016
	OD 120	2.1649	2.1654			2.1646		
[H]	ID 205	0.4721	0.4724	-0.0005	0.0001		0.4726	0.0005
	OD 225	0.4723	0.4726			0.4721		
[I]	ID 190	1.1024	1.1032	0.0000	0.0012		1.1036	0.0018
	OD 205	1.1020	1.1024			1.1018		
[J]	ID 250	1.1024	1.1032	0.0000	0.0012		1.1036	0.0018
	OD 205	1.1020	1.1024			1.1018		
[K]	ID 205	0.4721	0.4724	-0.0005	0.0001		0.4726	0.0005
	OD 200	0.4723	0.4726			0.4721		
[L]	ID 190	2.1654	2.1666	0.0000	0.0017		2.1672	0.0026
	OD 195	2.1649	2.1654			2.1646		

* ALL DIMENSIONS ARE IN INCHES

1 NEGATIVE VALUES SHOW INTERFERENCE FIT

ITEM NUMBERS REFER TO IPL FIG. 1

Fits and Clearances
Figure 801 (Sheet 4)

K30930

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	5	BOLT	20-30	
1	20	BOLT	20-30	
1	55	NUT	58-80	
1	80	NUT (USED ON ITEM 225)	300-350	
1	85	NUT	1200-1300	
1	175	NUT	58-80	
1	180	BOLT	58-80	
1	210	NUT (USED ON ITEM 105)	600-700	
1	235	BOLT	20-30	

* REFER TO SOPM 20-50-01 FOR TORQUE VALUES OF STANDARD FASTENERS.

Torque Table
Figure 802

SPECIAL TOOLS

NOTE: Equivalent substitutes can be used.

1. A27048-6, Backlash Check Fixture

2. A27051-2, Lock Assembly *[1]

3. A27051-4, -6 Spanner Adapter *[1]

4. A27051-7, Clamp Assembly *[1]

5. A27051-8, Input Crank Assembly *[1]

6. A27051-10, Wrench *[1]

7. A27054-2, Holding Fixture Assembly *[2]

8. A27054-10, Clamp (2 required) *[2]

9. Dial Indicator

*[1] These tools are included in A27051-31, Tool Set
*[2] These tools are included in A27054-14, Holding Fixture

ILLUSTRATED PARTS LIST

1. This section lists and illustrates replaceable or repairable component parts. The Illustrated Parts Catalog contains a complete explanation of the Boeing part numbering system.

2. Indentures show parts relationships as follows:

    Assembly
      Detail Parts for Assembly
      Subassembly
      Attaching Parts for Subassembly
        Detail Parts for Subassembly

    Detail Installation Parts (Included only if installation parts may be returned to shop as part of assembly)

3. One use code letter (A, B, C, etc.) is assigned in the EFF CODE column for each variation of top assembly. All listed parts are used on all top assemblies except when limitations are shown by use code letter opposite individual part entries.

4. Letter suffixes (alpha-variants) are added to item numbers for optional parts, Service Bulletin modification parts, configuration differences (Except left- and right-hand parts), product improvement parts, and parts added between two sequential item numbers. The alpha-variant is not shown on illustrations when appearance and location of all variants of the part is the same.

5. Service Bulletin modifications are shown by the notations PRE SB XXXX and POST SB XXXX.

    A. When a new top assembly part number is assigned by Service Bulletin, the notations appear at the top assembly level only. The configuration differences at detail part level are then shown by use code letter.

    B. When the top assembly part number is not changed by the Service Bulletin, the notations appear at the detail part level.

6. Parts Interchangeability

Optional (OPT)	The parts are optional to and interchangeable with other parts having the same item number.
Supersedes, Superseded By (SUPSDS, SUPSD BY)	The part supersedes and is not interchangeable with the original part.
Replaces, Replaced By (REPLS, REPLD BY)	The part replaces and is interchangeable with, or is an alternate to, the original part.

VENDORS

S0352 NIPPON MINIATURE BEARING CO LTD
TOKYO, JAPAN

02758 NETWORKS ELECTRONIC CORP U S BEARING DIV
9750 DE SOTO AVENUE
CHATSWORTH, CALIFORNIA 91311-4409

09455 BFM TRANSPORT DYNAMICS CORP
3131 WEST SEGERSTROM AVENUE PO BOX 1953
SANTA ANA, CALIFORNIA 92702-1953

15860 NEW HAMPSHIRE BALL BEARINGS, INCORPORATED ASTRO DIVISION
155 LEXINGTON AVENUE
LACONIA, NEW HAMPSHIRE 03246-2937

16746 SPECLINE INCORPORATED
2230 MOUTON DR
CARSON CITY, NV 89706

21335 TORRINGTON CO FAFNIR BEARING DIV
59 FIELD STREET
TORRINGTON, CONNECTICUT 06790-4942

21760 SCHATZ MANUFACTURING CO
FAIRVIEW AVENUE PO BOX 1191
POUGHKEEPSIE, NEW YORK 12601

29337 HOOVER GROUP INC BALL AND ROLLER DIV
2220 PENDLEY ROAD PO BOX 899
CUMMING, GEORGIA 30130-8671

38443 MRC BEARINGS
402 CHANDLER STREET
JAMESTOWN, NEW YORK 14701-3802

40920 MPB MINIATURE PRECISION BEARING DIV
PRECISION PARK PO BOX 547
KEENE, NEW HAMPSHIRE 03431

VENDORS

43991 FAG BEARING INCORPORATED
118 HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

50294 NEW HAMPSHIRE BALL BEARINGS INC
9730 INDEPENDENCE AVENUE PO BOX 2515
CHATSWORTH, CALIFORNIA 91311-4323

56644 AURORA BEARING CO
970 SOUTH LAKE STREET
AURORA, ILLINOIS 60506-5929

56878 SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV
HIGHLAND AVENUE
JENKINTOWN, PENNSYLVANIA 19046

72962 HARVARD INDUSTRIES INC
3 WERNER WAY SUITE 210
LEBANON, NEW JERSEY 08833

73134 IMO INDUSTRIES INC HEIM BEARINGS DIV
60 ROUND HILL ROAD PO BOX 430
FAIRFIELD, CONNECTICUT 06430

78118 SPLIT BALL BEARING DIV OF MPB CORP
HIGHWAY 4
LEBANON, NEW HAMPSHIRE 03766-7301

81376 SOUTHWEST PRODUCTS COMPANY
2240 BUENA VISTA STREET
IRVINDALE, CALIFORNIA 91706

97393 SHUR-LOK CORPORATION
2541 WHITE ROAD PO BOX 19584
IRVINE, CALIFORNIA 92713

VENDORS

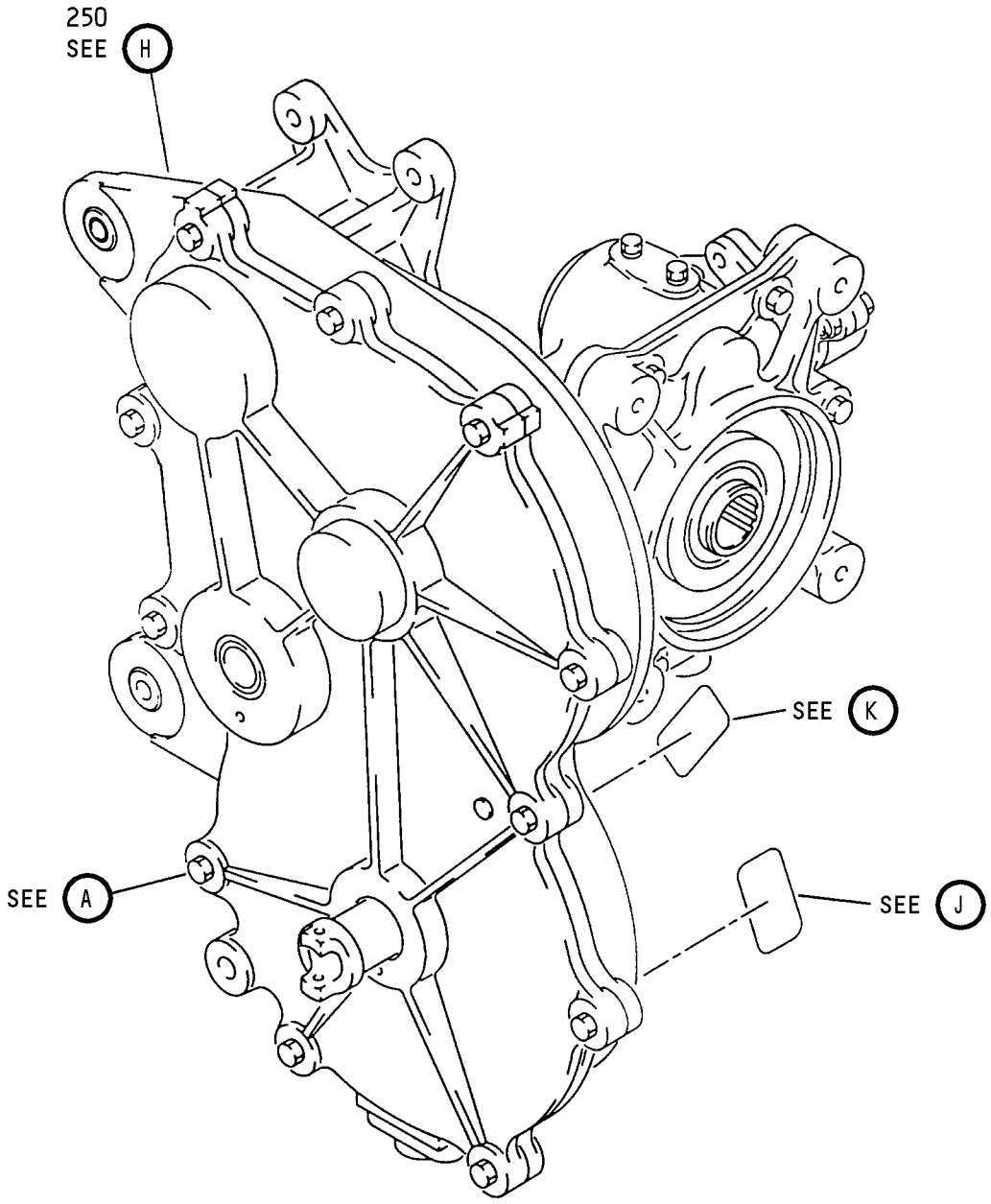
97613 SARGENT CONTROLS & AEROSPACE/KAHR BEARING DIV
5675 W BURLINGAME RD
TUCSON, ARIZONA 85743

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
ABW4V5		1	260	1
		1	260	1
ABW5V5		1	255	2
AW4VCRG		1	260	1
AW5VCRG		1	255	2
BACB10AB4		1	260	1
BACB10AB5		1	255	2
BACB10BA12PP		1	205	3
BACB10BA25PP		1	115	1
BACB10BA30PP		1	125	4
BACB10BB25PP		1	110	1
BACB10BB35PP		1	120	2
		1	195	1
BACB30NM3HK2		1	5	4
		1	235	2
BACB30NM3K7		1	20	3
BACB30NR4K12		1	40	10
BACB30NR4K13		1	160A	4
BACB30NR4K4		1	180	2
BACB30NR4K6		1	60	1
BACN10JC3CD		1	30	3
BACN10JC4CD		1	55	10
		1	175	4
BACN10RF10		1	80	1
		1	210	1
BACN10RF14		1	85	1
BACW10BN3AC		1	10	4
		1	25	6
		1	240	2
BACW10BN4AC		1	45	10
		1	65	1
		1	165	4
		1	185	2
BACW10BN4AP		1	50	10
		1	170	4
BR9080-14		1	85	1
BSSR4804		1	260	1
BSSR5544		1	255	2
BWG5-110		1	255	2
C005RRPP1P28LY1		1	110	1
C005RRP0ZZ		1	110	1
C007RPP1P28LY19		1	120	2
		1	195	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
C007RRP0ZZ		1	120	2
C007RRP0ZZ		1	195	1
C101RCP0ZZ		1	205	3
C101RPP1P17LY19		1	205	3
C105RRPP1P28LY1		1	115	1
C105RRP0ZZ		1	115	1
C106RRPP1P28LY1		1	125	4
C106RRP0ZZ		1	125	4
HU4-134		1	260	1
HU5-134		1	255	2
KWB4-20CRG		1	260	1
KWB5-20CRG		1	255	2
LL101KS		1	205	3
LL101KSG20		1	205	3
LL105KS		1	115	1
LL106KS		1	125	4
LL106KSG20		1	125	4
MS21209F1-15P		1	265	6
MS21209F4-10P		1	270	1
MS21209F4-20P		1	275	3
NAS1149F1063P		1	90	1
		1	215	1
PKTLL005P1		1	110	1
PKTLL007P1		1	120	2
		1	195	1
PKTLL101P1		1	205	3
PKTLL105P1		1	115	1
PKTLL106P1		1	125	4
SL2822-10		1	80	1
		1	210	1
SL2822-14		1	85	1
WC4G1		1	260	1
WC5G1		1	255	2
WG4E		1	260	1
WG5E		1	255	2
1905LLT1C1-01		1	110	1
1907RRT1C1-01		1	120	2
		1	195	1
256T2313-1		1	245	1
256T2629-2		1	135	1
		1	150	1
256T2631-1		1	230	1
256T2633-1		1	15	2
256T2716-1		1	190	1
256T2718-1		1	35	1
256T2726-1		1	220	1

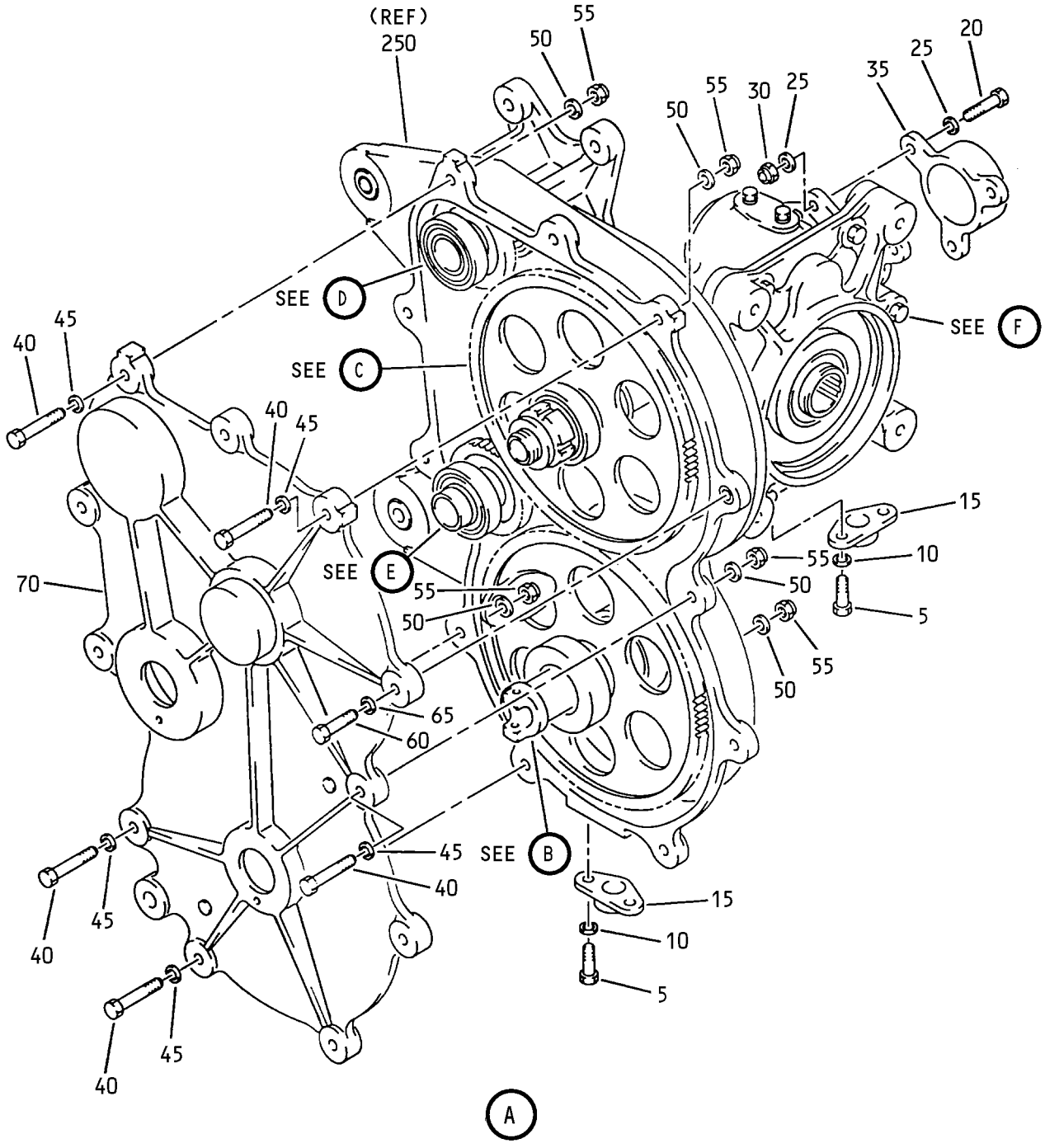
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
256T2727-1		1	225	1
256T2728-1		1	200	1
256T2729-1		1	95	1
256T5124-18		1	285A	1
256T5124-3		1	285	1
256T5124-4		1	290	1
256T5510-1		1	1A	RF
256T5510-2		1	1B	RF
256T5521-1		1	250	1
256T5521-2		1	280	1
256T5521-4		1	250A	1
256T5521-5		1	280A	1
256T5522-1		1	70	1
256T5523-1		1	130	1
256T5523-2		1	140	1
256T5524-1		1	145	1
256T5524-2		1	155	1
256T5525-1		1	105	1
256T5526-1		1	100	1
256T5527-1		1	75	1
55282		1	260	1
55283		1	255	2
6001FTT		1	205	3
6005TT		1	115	1
6006TT		1	125	4
82631-1018		1	80	1
		1	210	1
82631-1414		1	85	1
9101LLT1C1-01		1	205	3
9101NPPFS428		1	205	3
9105LLT1C1-01		1	115	1
9105NPPFS428		1	115	1
9106LLT1C1-01		1	125	4
9106NPPFS428		1	125	4
9305PPFS428		1	110	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
9307PPPRBFS428		1	120	2
		1	195	1
993L01		1	205	3
993L05		1	115	1
993L06		1	125	4



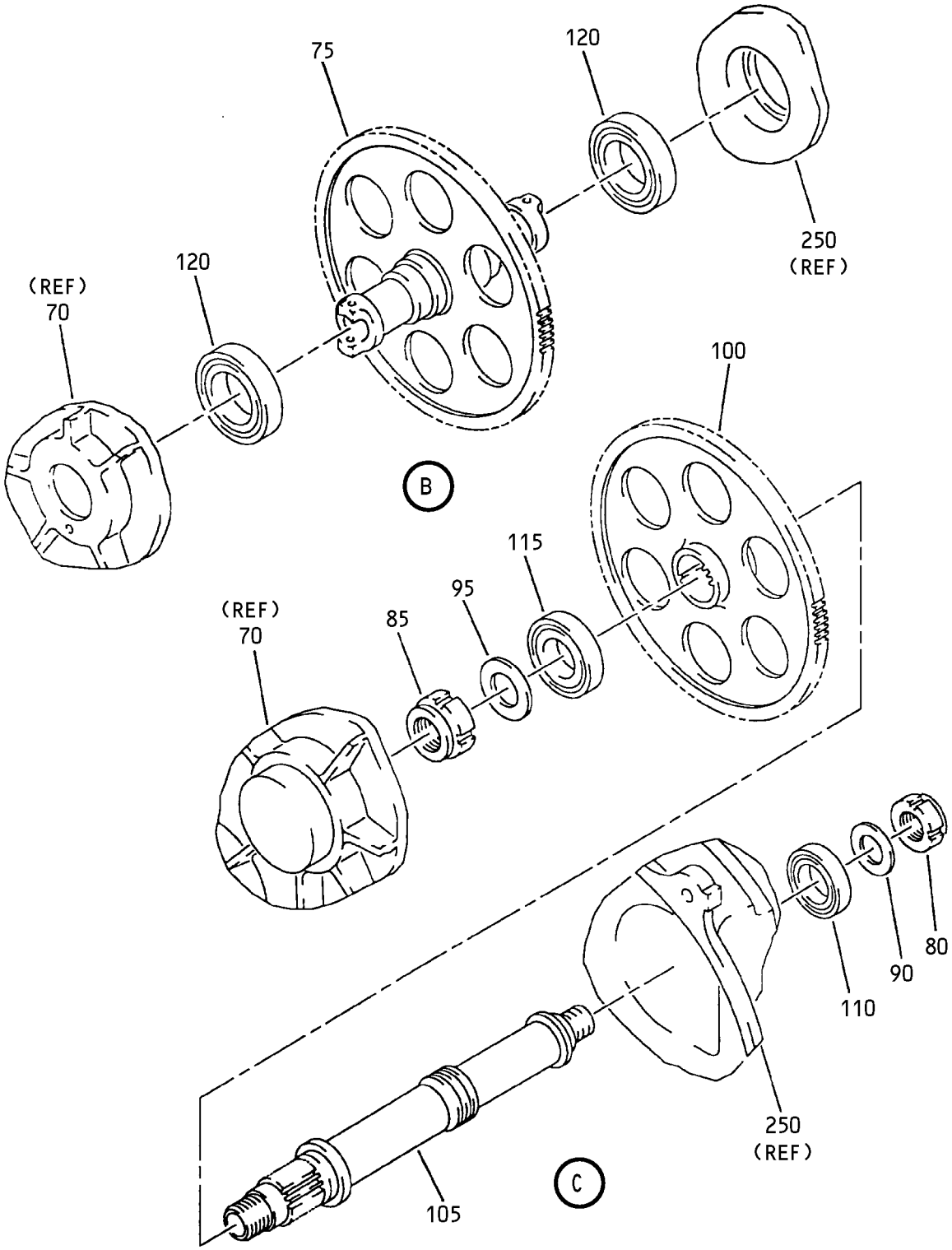
Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 1)

K26170



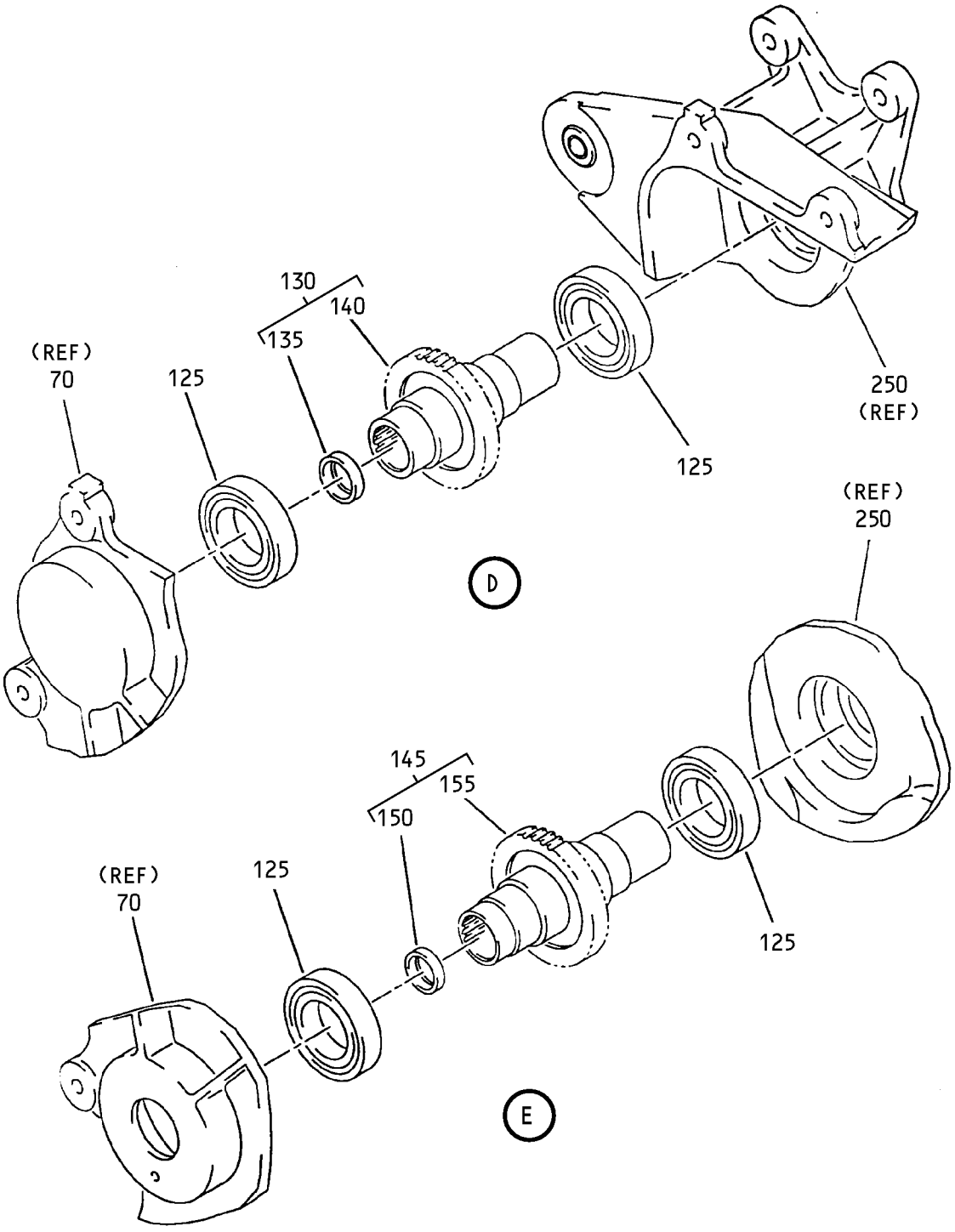
Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 2)

K26178



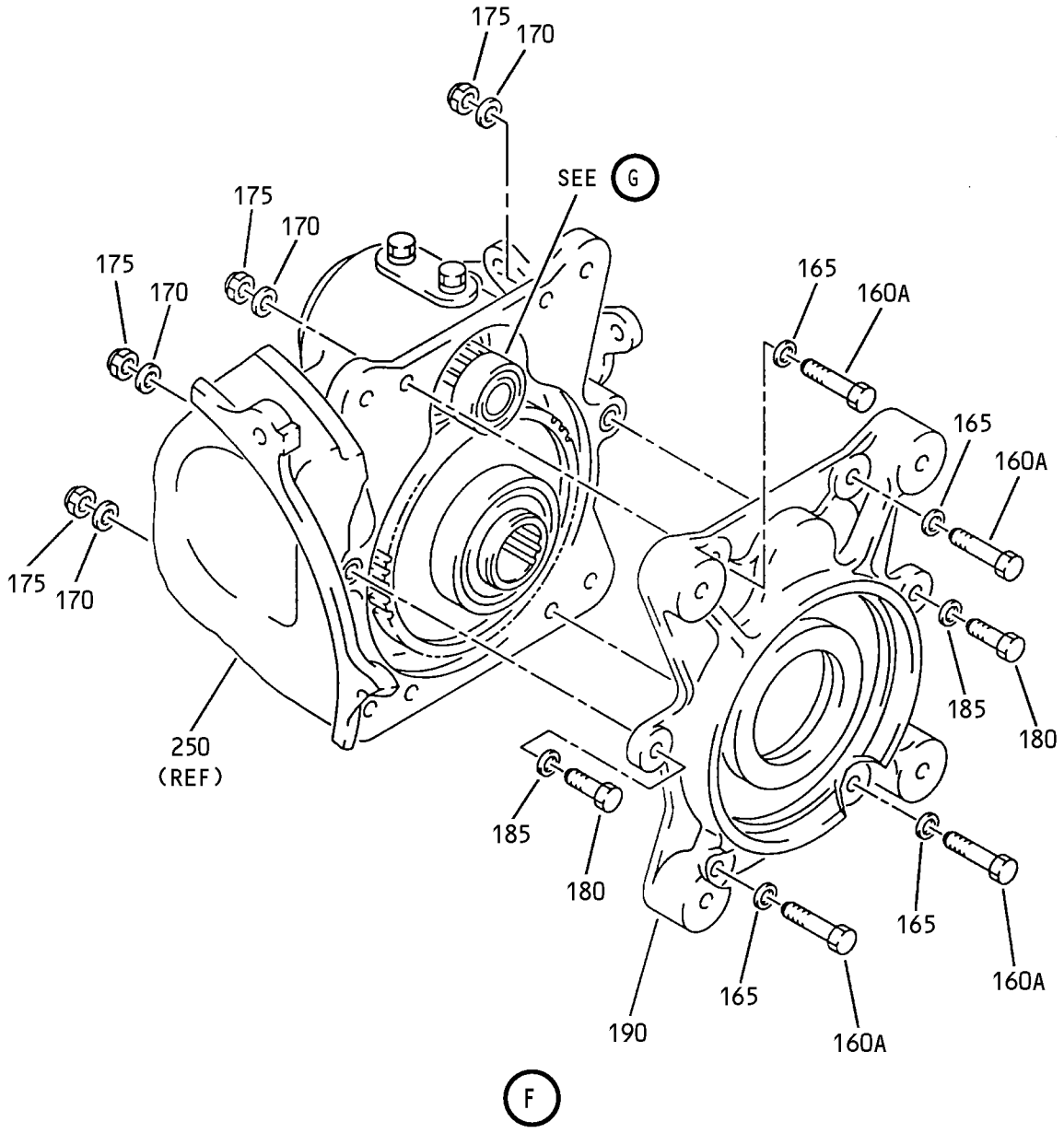
Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 3)

K26180



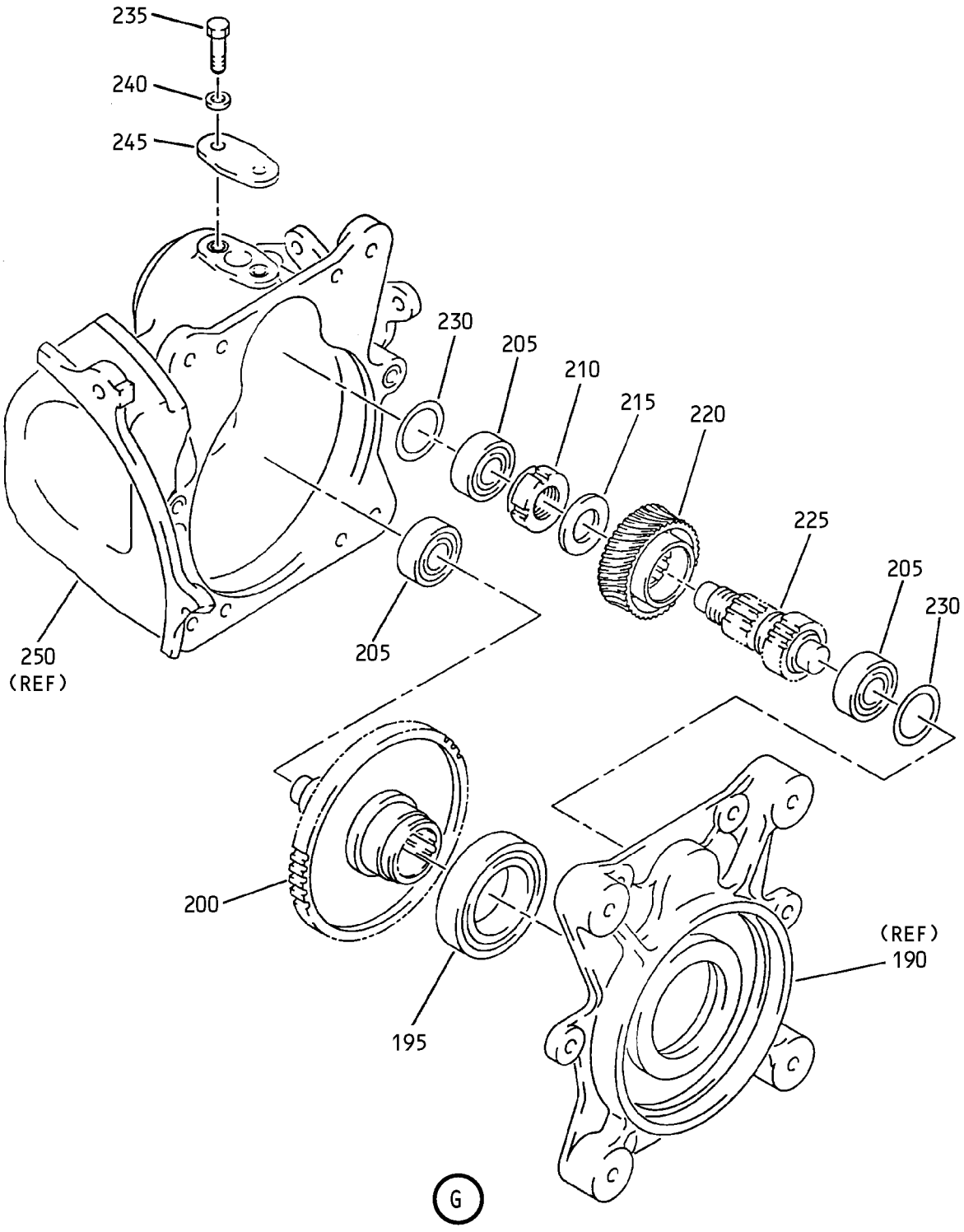
Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 4)

K26182



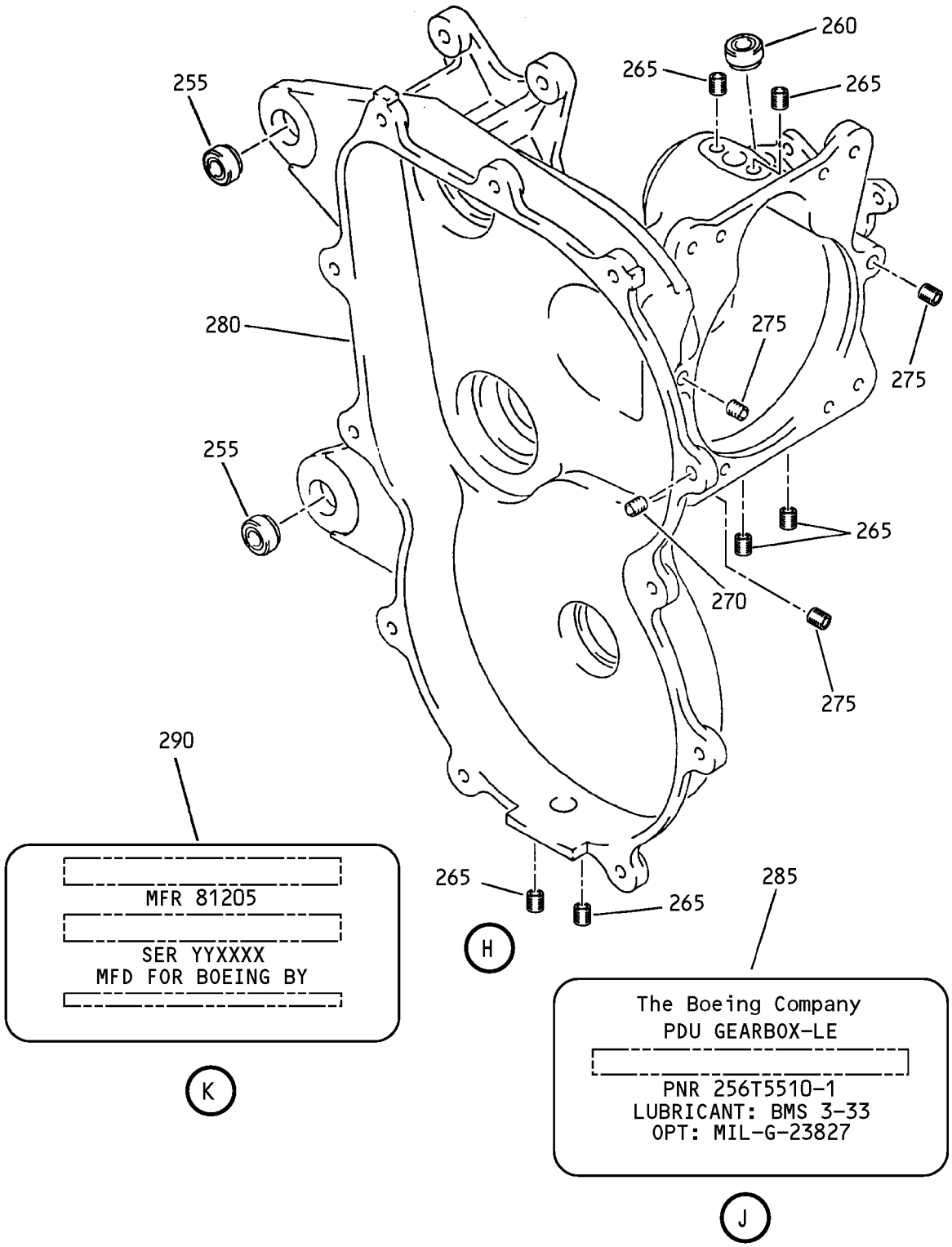
Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 5)

K26188



Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 6)

K26189



Outboard Leading Edge Slat Drive Power Drive Unit Gearbox Assembly
Figure 1 (Sheet 7)

K26207

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	-1A	256T5510-1		GEARBOX ASSY-OUTBD L.E. SLAT DRIVE PWR DRIVE UNIT	A	RF
R	-1B	256T5510-2		GEARBOX ASSY-OUTBD L.E. SLAT DRIVE PWR DRIVE UNIT	B	RF
	5	BACB30NM3HK2		.BOLT		4
	10	BACW10BN3AC		.WASHER		4
	15	256T2633-1		.COVER-DRAIN		2
	20	BACB30NM3K7		.BOLT		3
	25	BACW10BN3AC		.WASHER		6
	30	BACN10JC3CD		.NUT		3
	35	256T2718-1		.CAP		1
	40	BACB30NR4K12		.BOLT		10
	45	BACW10BN4AC		.WASHER		10
	50	BACW10BN4AP		.WASHER		10
	55	BACN10JC4CD		.NUT		10
	60	BACB30NR4K6		.BOLT		1
	65	BACW10BN4AC		.WASHER		1
	70	256T5522-1		.COVER		1
	75	256T5527-1		.SHAFT-GEAR		1
	80	SL2822-10		.NUT- (V97393) (SPEC BACN10RF10) (OPT 82631-1018 (V56878))		1
	85	SL2822-14		.NUT- (V97393) (SPEC BACN10RF14) (OPT BR9080-14 (V72962)) (OPT 82631-1414 (V56878))		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
90	NAS1149F1063P		.WASHER		1
95	256T2729-1		.WASHER		1
100	256T5526-1		.GEAR-IDLER		1
105	256T5525-1		.SHAFT		1
110	1905LLT1C1-01		.BEARING-		1
			(V21760)		
			(SPEC BACB10BB25PP)		
			(OPT 9305PPFS428		
			(V21335))		
			(OPT PKTLL005P1		
			(V78118))		
			(OPT C005RRP0ZZ		
			(V40920))		
			(OPT C005RRPP1P28LY1		
			(V40920))		
115	9105NPPFS428		.BEARING-		1
			(V21335)		
			(SPEC BACB10BA25PP)		
			(OPT PKTLL105P1		
			(V78118))		
			(OPT C105RRPP1P28LY1		
			(V40920))		
			(OPT LL105KS		
			(V38443))		
			(OPT 6005TT		
			(V43991))		
			(OPT 9105LLT1C1-01		
			(V21760))		
			(OPT 993L05		
			(V29337))		
			(OPT C105RRP0ZZ		
			(V40920))		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
120	1907RRT1C1-01		.BEARING- (V21760) (SPEC BACB10BB35PP) (OPT 9307PPPRBFS428 (V21335)) (OPT PKTLL007P1 (V78118)) (OPT C007RRP0ZZ (V40920)) (OPT C007RPP1P28LY19 (V40920))		2
125	LL106KSG20		.BEARING- (V38443) (SPEC BACB10BA30PP) (OPT LL106KS (V38443)) (OPT 6006TT (V43991)) (OPT 9106LLT1C1-01 (V21760)) (OPT 9106NPPFS428 (V21335)) (OPT 993L06 (V29337)) (OPT PKTLL106P1 (V78118)) (OPT C106RRP0ZZ (V40920)) (OPT C106RRPP1P28LY1 (V40920))		4
130	256T5523-1		.GEAR ASSY		1
135	256T2629-2		..PLUG		1
140	256T5523-2		..MOTOR INPUT-ALT		1
145	256T5524-1		.GEAR ASSY		1
150	256T2629-2		..PLUG		1
155	256T5524-2		..MOTOR INPUT-HYD		1
160A	BACB30NR4K13		.BOLT		4
165	BACW10BN4AC		.WASHER		4
170	BACW10BN4AP		.WASHER		4
175	BACN10JC4CD		.NUT		4

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	180	BACB30NR4K4		.BOLT		2
	185	BACW10BN4AC		.WASHER		2
	190	256T2716-1		.COVER-FOLLOW UP		1
	195	1907RRT1C1-01		.BEARING- (V21760) (SPEC BACB10BB35PP) (OPT 9307PPPRBFS428 (V21335)) (OPT PKTLL007P1 (V78118)) (OPT C007RRP0ZZ (V40920)) (OPT C007RPP1P28LY19 (V40920))		1
	200	256T2728-1		.GEAR		1
	205	LL101KSG20		.BEARING- (V38443) (SPEC BACB10BA12PP) (OPT LL101KS (V38443)) (OPT 6001FTT (V43991)) (OPT 9101LLT1C1-01 (V21760)) (OPT 9101NPPFS428 (V00035)) (OPT 993L01 (V29337)) (OPT PKTLL101P1 (V78118)) (OPT C101RCP0ZZ (V40920)) (OPT C101RPP1P17LY19 (V40920))		3
	210	SL2822-10		.NUT- (V97393) (SPEC BACN10RF10) (OPT 82631-1018 (V56878))		1
	215	NAS1149F1063P		.WASHER		1
R	220	256T2726-1		.GEAR-WORM		1
	225	256T2727-1		.SHAFT-GEAR		1
	230	256T2631-1		.SHIM		AR
	-230A	256T2631-2		.SHIM		AR

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	-230B	256T2631-3		.SHIM		AR
	-230C	256T2631-4		.SHIM		AR
	-230D	256T2631-5		.SHIM		AR
	-230E	256T2631-6		.SHIM		AR
	235	BACB30NM3HK2		.BOLT		2
	240	BACW10BN3AC		.WASHER		2
	245	256T2313-1		.COVER-INSPEC HOLE		1
	250	256T5521-1		.HOUSING ASSY	A	1
R	-250A	256T5521-4		.HOUSING ASSY	B	1
	255	AW5VCRG		..BEARING- (V15860) (SPEC BACB10AB5) (OPT BSSR5544 (V81376)) (OPT KWB5-20CRG (V97613)) (OPT WG5E (V73134)) (OPT 55283 (V09455)) (OPT HU5-134 (V02758)) (OPT ABW5V5 (V50294)) (OPT BWG5-110 (V16746)) (OPT WC5G1 (V56644)) (OPT ABW5V5 (VS0352))		2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-260	HU4-134		..BEARING- (V02758) (SPEC BACB10AB4) (OPT ABW4V5 (V50294)) (OPT BSSR4804 (V81376)) (OPT KWB4-20CRG (V97613)) (OPT WG4E (V73134)) (OPT 55282 (V09455)) (OPT WC4G1 (V56644)) (OPT AW4VCRG (V15860)) (OPT ABW4V5 (VS0352))		1
	265	MS21209F1-15P		..INSERT		6
	270	MS21209F4-10P		..INSERT		1
R	275	MS21209F4-20P		..INSERT		3
	280	256T5521-2		..HOUSING	A	1
R	-280A	256T5521-5		..HOUSING	B	1
	285	256T5124-3		.MARKER-NAMEPLATE	A	1
R	-285A	256T5124-18		.MARKER-NAMEPLATE	B	1
	290	256T5124-4		.MARKER-SERIALIZED		1

- Item Not Illustrated